INON

S-TTL Strobe & Arm

S-TTL Promises Appropriate Exposure Underwater

The S-TTL enables TTL auto shooting by an external strobe for digital SLR cameras as well as for compact digital cameras. INON S-TTL Auto supports any manufactures' model with its highly accurate exposure control.

Film camera era without strobe selection problem

TTL stands for "Through The Lens". A TTL auto strobe controls flash amount to provide correct exposure based on calculation by camera's internal sensor metering reflecting strobe light from a subject through the lens. This system meters actual light amount reflecting from a subject thus able to provide accurate exposure.

When we start with the history of underwater TTL auto strobe for underwater photography, underwater camera "NIKONOS V" released in 1984 was the first to provide automatic TTL flash control for underwater strobe SB-102, SB-103 succeeded by NIKONOS V compatible underwater strobes from other manufactures. The 5 pin electrical sync connector for the NIKONOS V is the most popular and widely adopted to couple an underwater strobe and underwater film camera (underwater camera/underwater housing).

A film SLR camera has flexibility to select an underwater strobe. As far as a housing has NIKONOS type electrical sync connector and properly wired, automatic TTL flash control is usable with any TTL auto strobe like Nikon SB-105, INON Z-220, INON Z-22 simply connected via electrical sync cable.

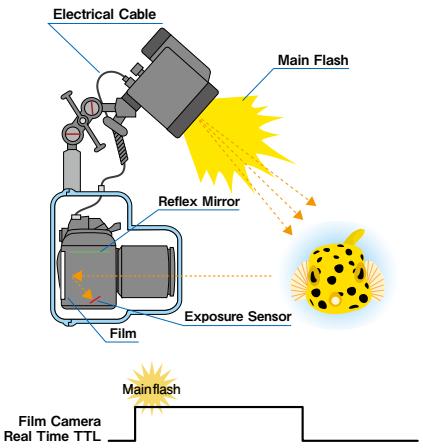
NIKONOS type 5 pin electrical sync connector and NIKONOS V with INON Z-22 strobe

Film camera compatible strobe is not usable for a digital camera!?

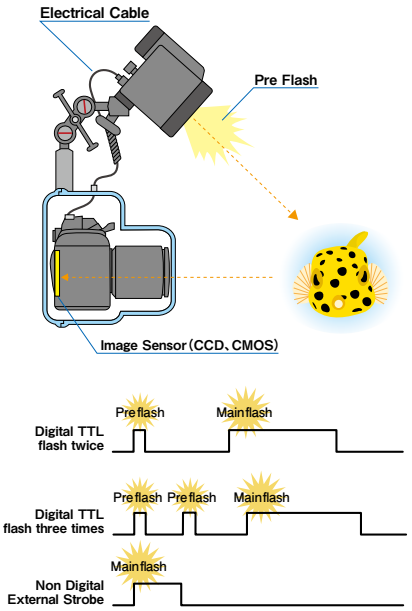
Underwater TTL strobe circumstances have been drastically altered with the spread of digital cameras among divers. Some underwater digital SLR camera housings have Nikonos type electrical 5 pin sync connector as like film camera housings. When we plugged same strobe which we used for a film camera housing to a digital SLR housing via NIKONOS 5pin compatible sync cable presuming that the strobe works, it turned out to observe error indication on the camera or blackout images whilst the strobe fired. Why this happened? This is because how a digital SLR camera controls TTL differs from how film SLR camera does.

The film TTL auto system makes single flash while digital TTL auto system employs pre-flash type making couple of flashes. The film TTL auto strobe system starts firing when the shutter opens and reflecting strobe light from a subject is received at a film. The reflecting light on the film is metered by the camera's internal sensor to determine when to cease firing for correct exposure. This process takes only about 1/1000 second. In contrast, a digital camera cannot calculate adequate exposure based on reflecting light from a subject since an image sensor (CCD/CMOS) reflectivity is comparably low comparing to a film. So the digital camera gives a faint flash (pre-flash) just before the shutter opens metering reflecting light from a subject by the camera's internal sensor to calculate necessary amount of light for correct exposure and bursts main flash at the same time the shutter opens. Canon E-TTL and Nikon i-TTL employs this system.

When we connect conventional film camera compatible TTL strobe to pre-flash type digital SLR via sync cable, the strobe makes full dump by pre-flash signal then the shutter opens before the strobe has been fully charged resulting in quite under exposed image only with ambient light. Even two time flash compatible strobe like INON Z-220 strobe, does not fully support a digital TTL and force to use Manual flash mode.



Film SLR: A strobe starts firing at the same time the shutter opens and quenches firing when correct exposure has been obtained.



A film compatible TTL strobe connected to a pre-flash type digital SLR via electrical cable does not support TTL auto exposure resulting in synchronization only with first pre-flash or totally uncontrollable.

The birth of digital fully compatible S-TTL

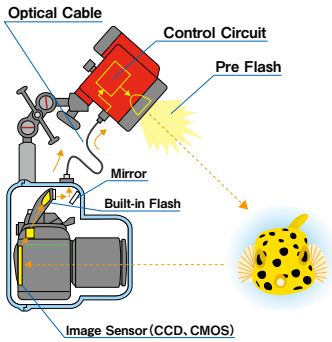
Whilst digital cameras quickly took over film cameras for land photography, spread among underwater photographers took longer. Main reason was incompatibility of underwater strobes with digital TTL Auto making hard to benefit fully automatic strobe shooting.

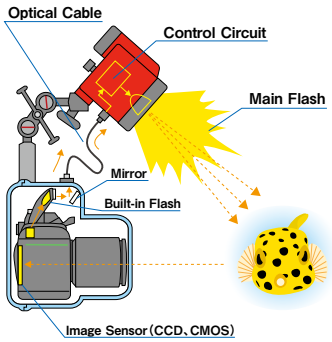
INON is among the first to support digital TTL auto system with S-TTL Auto mode equipped D-2000 strobe and Z-240 strobe.

The proper name of the S-TTL is Optical Synch TTL. The S-TTL enables the strobe to perform in TTL auto exposure as same as genuine TTL strobe from camera manufacture, based on camera's built-in flash light to use as a signal to transmit it to the strobe. The S-TTL uses the built-in flash not as a light source but as like a controller to trigger the S-TTL strobe.

The built-in flash of a digital camera makes weak flash (pre-flash) before main-flash to calculate exposure. This pre-flash is transmitted through fiber optics to an S-TTL strobe to control the strobe to make pre-flash at a subject. The reflecting light from the subject goes through the camera's master lens to an image sensor then a processor determines main flash light amount for correct exposure. Finally the built-in flash makes main-flash which is transmitted to the S-TTL strobe to cause main-flash of the S-TTL strobe.

INON Z-240/D-2000/S-2000 strobe supports S-TTL auto exposure simply by setting their main dial to S-TTL position.





Digital camera's built-in flash lights are transmitted via optical fiber to the S-TTL strobe to make pre-flash and main-flash instead of the built-in flash.

Highly versatile S-TTL

This S-TTL auto system is compatible with any make, model regardless of a compact digital camera or a digital SLR camera as far as a the camera has pre-flash type TTL built-in flash. Since the S-TTL works based on optical signal, theoretically there is no limitation on number of strobe to use as long as they are connected via optical fibers.

INON S-TTL strobes also supports explosively sold transparent housings among divers with simple and reliable external strobe shooting only by pressing the shutter release button. INON has released a number of "Mount Base" to use attachment lens and "Optical D Cable Type L/Cap (Bush) Set" products to attach an optical cable on compact digital cameras continuously released from camera manufactures; Canon, Olympus, Sony, Nikon, Fujifilm, Panasonic, etc. INON now supports more than 150 different camera models and will successively provide compatible products for latest models.

INON system further includes so called Clear Photo Film to stick on built-in flash surface to change visible light to invisible infrared ray to prevent built-in flash light from leaking not to cause backscatter or exposing suspended particles in an image.

Since S-TTL strobes require digital camera's built-in flash light as a control signal, a digital camera without built-in flash like Canon EOS 5D or Nikon D4 cannot use S-TTL Auto.

Even a digital SLR camera with built-in flash, an S-TTL strobe does not properly work if a housing does not allow the camera to pop-up its built-in flash or does not have structure to properly transmit built-in flash light to an optical fiber. So it is important to check if the S-TTL strobe is usable when you select a camera and an underwater housing.

INON S-TTL strobes work with any pre-flash type digital camera system as far as they make flash underwater, so you can continue to use same S-TTL strobe even you change your camera or housing. An optical fiber is flood-free enabling S-TTL strobe to be shared among two cameras underwater. INON S-TTL would be ideal control system for underwater strobe with its broad versatility and reliable exposure even for multiple strobe system.

(Upper) 4 x Z-240 strobes connected to INON X-2 housing via optical cables. (Lower) Clear Photo System converts built-in flash light to infrared ray.

Wide range of Mount Base products and Optical D Cable Type L/Cap Set products support each different digital cameras.

INON
STROBE TECHNOLOGY

S-TTL Auto Flash Adjustment

The S-TTL Auto provides fine-tune of flash output with the EV. Control Switch on the strobe.
It is easy to calibrate exposure based on personal preference or particular characteristic of camera's exposure control.

Fine adjustment is supported to suit to your personal preference even in camera dependent TTL Auto shooting

The S-TTL Auto of INON Z-240/D-2000/S-2000 is not just to work out full automatic strobe shooting with point and shoot digital cameras. Flash output can be finely adjusted on strobe control for desired exposure depending on shooting conditions, subjects, individual preference or characteristic of a camera.

S-TTL Auto strobes are equipped with the EV. Control Switch to deliver "real" appropriate exposure simply by dialing the switch.
INON Z-240/D-2000/S-2000 realize your high sensitivity that can not be satisfied with existing underwater TTL Auto strobe.

The EV. Control Switch of the Z-240 Type4

The EV. Control Switch of the S-2000

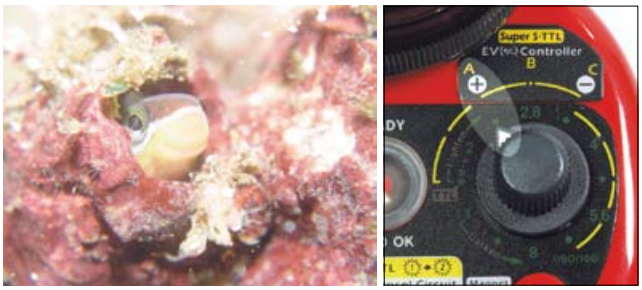
The S-TTL Auto provides free and flexible flash adjustment with the EV. Control Switch

When shooting with S-TTL Auto mode, set the Main Mode Switch to S-TTL and EV. Control Switch to B which is 12 o'clock position. This setting will give you appropriate exposure for shooting popular situation with a standard camera.
For further adjustment to change exposure, turn the EV. Control Switch. Adjustable range is indicated in yellow line or dots around the EV. Control Switch which offers 3 steps from the B position to increase the flash power (turn the switch counterclockwise) and 5 (D-2000/S-2000) or 6 (Z-240) steps to decrease (turn the switch clockwise).
When you want to add the flash power little bit, turn the EV. Control Switch counterclockwise to A position. For bit dark exposure, turn the switch clockwise to C position and one notch further gives darken the image more.
Once you have made appropriate EV. Control Switch position, then S-TTL Auto always delivers right exposure based on your personal preference.

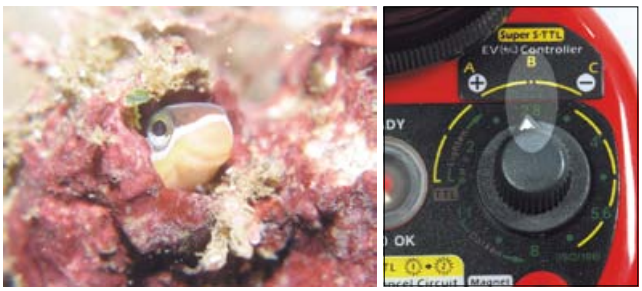
※ Note
Actual exposure with the EV. Control Switch setting B may be different from sample images depending on camera, shooting condition, shooting parameters (aperture, distance to subject etc.).

Photo data
Strobe: D-2000 x 2 (both strobe set to S-TTL Auto)
- Camera: Olympus C-5050Z, PT-015
- Attachment lens: UCL-165M67 x2
- F2.6, 1/1000sec, ISO100, Telephoto end
- Subject: Piano Blenny
- Location: Fukuura Kanagawa, JAPAN

©Ryo Hattori (INON)



【Bit brighter】
Position A with the EV. Control Switch gives brighter result comparing to position B.



【Standard position】
Setting the EV. Control Switch to B position.

【Bit dark】
Position C with the EV. Control Switch gives darker result comparing to B position.

【Rather dark】
Turning the EV. Control Switch clockwise one step further gives more dark result comparing to C position.

External Auto Exposure Where Strobe Determines Flash Amount

Highly accurate S-TTL may not work properly as you intend depending on camera or shooting condition.
In such case, External Auto mode of the Z-240 and D-2000 realizes your intension.

Situation where S-TTL Auto is not able to provide correct exposure

The debut of the S-TTL Auto benefits everyone to enjoy underwater photography for its fully automatic exposure control function. However not all situations are resulted in perfect images by the S-TTL Auto. For example, in backlit condition, if a camera thinks ambient light is bright enough to cause faint flash, subject fish is exposed dark in an image. Also some of recent compact digital cameras have a characteristic to suppress built-in flash effect to take full advantage of ambient light. This is useful for land photography to get natural result as it avoids shining or dark shadow but not for underwater photography. Since water absorbs red end of spectrum first, the deeper we go, the bluer we get as result images. If we use an S-TTL Auto strobe for those particular cameras that carry ambient light oriented exposure control characteristic, the S-TTL Auto strobe which is controlled by the built-in flash, only makes faint flash resulting in bluish image. We can increase strobe light by either using the EV. Control Switch dialing to positive side or flash compensation of the camera. However they may not be good enough. Using Manual mode is not difficult as a digital camera provides post view on its LCD display right after shooting where we can adjust the flash power setting according to what we see on the display. But this requires to adjust setting whenever shooting distance changes and could be critical when shooting shy subject like a goby. They are not good patient if we have to change dial setting of the strobe as we move closer to them.

S-TTL Auto. The built-in flash made faint flash based on the camera' s calculation resulting in bluish image.

External Auto. The strobe delivered sufficient light on corals and fishes.

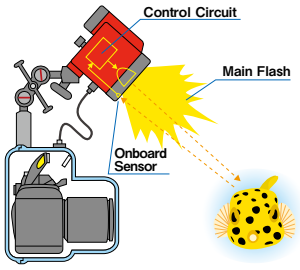
Semi-automatic External Auto where strobe determines flash amount

The Z-240 and D-2000 is equipped with an External Auto mode which determines flash amount based on reflecting flash light from a subject metered by the onboard sensor. This flash mode is independent of combined camera and not affected by any individual feature of the camera. Once necessary setting has been made, there is no need to change it even shooting distance alters, so more convenient comparing to Manual mode.
The External Auto mode is kind of semi-automatic as this mode requires setting aperture value and ISO manually to accommodate with those setting on the camera. Basically all we need is to set the Main Mode Switch to AUTO and match the EV. Control Switch position with camera's aperture value. There are numbers around the EV. Control Switch like, 2.8, 4 or 5.6 which stands for f number based on ISO100, so if camera's aperture setting is 5.6, set the EV. Control Switch to 5.6. When using ISO200 on your camera, turn the switch counterclockwise two notches further (as indicated by an arrow of Darken) to 4, or four notches further to 2.8 for ISO setting 400.

While we can shoot with fixed aperture setting if the camera features such shooting modes like aperture priority mode or manual mode, a full automatic camera which only offers program auto mode cannot fix the aperture value. A majority of such full automatic cameras do not display aperture value on their LCD screen and make it hard to match the EV. Control Switch with camera's aperture setting. On the other hand many of those full automatic cameras look like switching over two aperture settings where aperture value will not frequently shift unless changing zoom position, use of macro mode or camera orientation. So it is useful to check appropriate EV. Control Switch setting based on test shots without trying to set same aperture setting as on the camera. First, set ISO at 100 or 200 and focus on a subject. Next take several shots of still subject nearby like a rock or coral to find out the best EV. Control Switch position for correct exposure. Taking actual shot of the intended subject with this setting will give you acceptable result. Lastly you can fine-tune flash output with the EV. Control Switch. No need to change strobe setting even shooting distance changes.
In the same way, you can find out standard EV. Control Switch positions for typical shooting scenes including macro and wide subjects. Having those setting in your mind, the External Auto mode will back up the S-TTL Auto in case it does not deliver intended result.

(Left) Set Main Mode Switch to External Auto
(Right) Onboard sensor which meters reflecting light from a subject

The onboard sensor meters strobe light in real time and ceases firing when appropriate exposure has been obtained.



Clear Photo System for Sharp Images

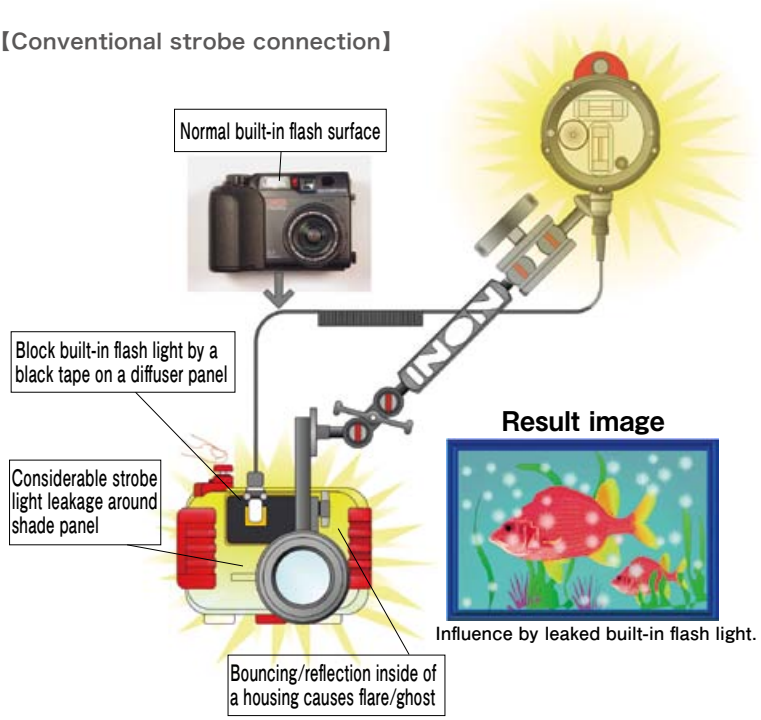
Built-in flash light leaking from a transparent housing causes backscatter or ghosting.
INON Clear Photo System has successfully resolved these drawbacks.

Conventional strobe system exposing suspended particles even with an external strobe

When shooting with a transparent housing and using the built-in flash light as primary light source, we will see many of white dots on the image as a result of reflection from suspended particles between the subject and camera, so called backscatter.
Using an external strobe and shading the built-in flash with a black tape does not work well if the built-in flash light leaks from the transparent housing. Depending on the design of the transparent housing, built-in flash could create arc-like ghost.

Many of white dots exposed in this image as a result of reflection from suspended particles illuminated by the built-in flash

【Conventional strobe connection】



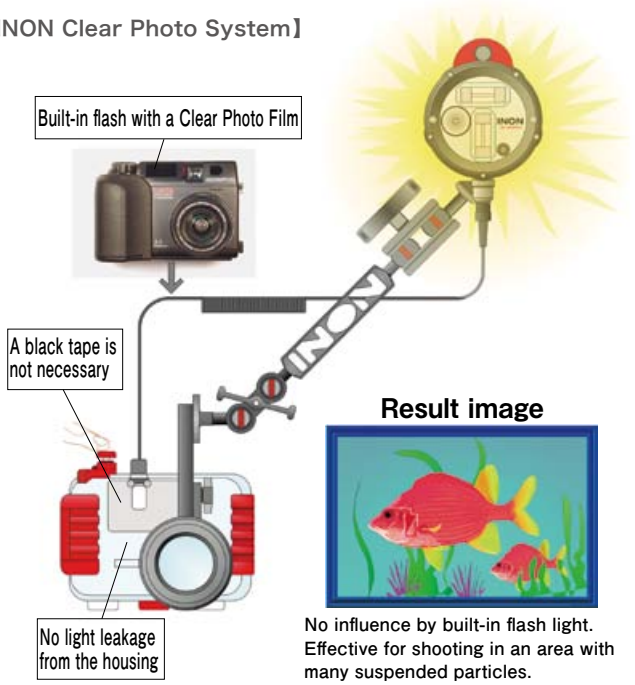
Influence by leaked built-in flash light.

Clear Photo System eliminates influence of the built-in flash light

The Clear Photo System consists of a Clear Photo Film stuck over digital camera's built-in flash surface to convert visible light into infrared ray. Since built-in flash light is not leaked from a housing, we can shoot a subject only with external strobe light. Using a strobe arm to locate the strobe off camera will provide clear underwater images. Off course it is not necessary to attach a black tape on a diffuser panel or housing itself to shade light.

Using the Clear Photo Film blocks visible light from the built-in flash resulting in clear image without backscatter

【INON Clear Photo System】



No influence by built-in flash light.
Effective for shooting in an area with many suspended particles.

*Clear Photo Films are included in Optical D Cable Type L/Cap Set.
*Schematic diagrams for explanation and may not the case.
*The Clear Photo System is patented in the U.S. (No.6,704,500) and PAT. P in Japan.

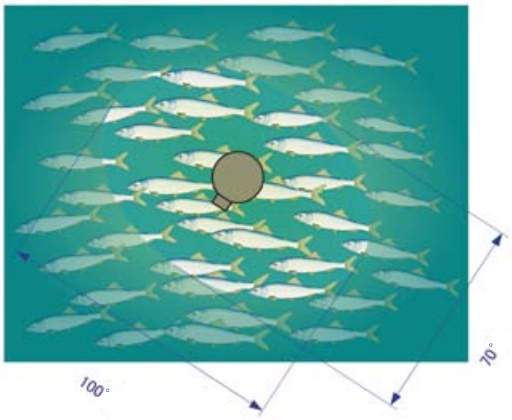
T-shape Twin Flash Delivers 100° Circular Beam Angle without Diffuser

The Z-240 and D-2000 strobe has two flash tubes in T configuration with unique reflecting mirrors.
This construction provides wide 100° circular beam angle without diffuser panel.

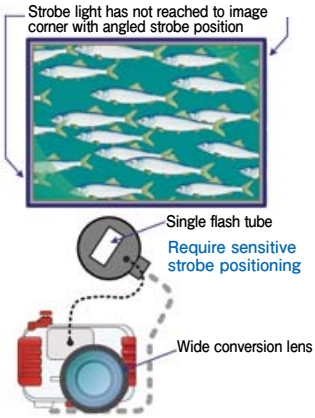
Conventional strobe with single flash tube

A strobe with single flash tube has rectangular reflecting mirror emitting oval beam creating blind corners if the strobe is not properly aligned with a camera. So strobe position has to be rather limited to evenly cover all image area even using an arm system allowing free strobe position.
Using a diffuser panel makes the beam more like circular pattern but this is trade off against flash power.

Strobe with single flash tube inclined at 45 degree



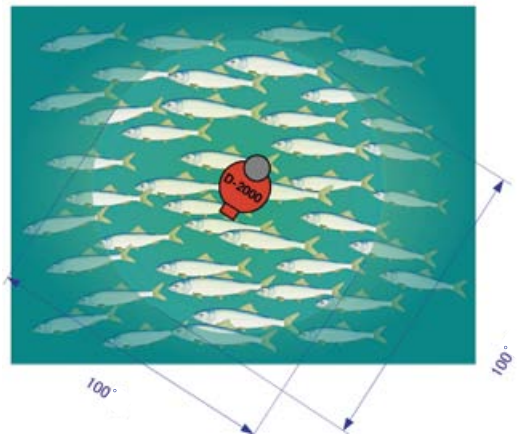
【Result image】



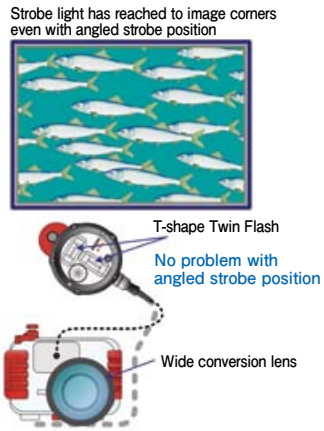
INON Strobe with T-shape Twin Flash

The T-shape Twin Flash having two flash tubes in T-shape configuration generates 100 degree circular beam all around enabling free and flexible strobe position without considering camera's orientation. Together with INON arm system enabling free strobe position, the T-shape Twin Flash benefits you with flexible and creative lighting even shooting with a wide lens. Also the wide beam angle is delivered without a diffuser where maximum strobe power is usable even for wide imaging.
Another advantageous feature of the T-shape Twin Flash is to soften a shadow. Larger light emitting area of two flash tubes, together with T-shape configuration design, creates less and soft shadow. Attaching a diffuser panel prevents washout.

T-shape Twin Flash inclined at 45 degree



【Result image】



Two flash tubes are arranged in T-shape

【Single T-shape Twin Flash strobe】

【Single flash tube type strobe】

Conventional single flash tube type strobe has smaller light emitting area creating sharp shadow.
(Above samples are simulated images on land)

∗T-shape Twin Flash is used for INON Z-240, D-2000, D2000S, D-2000W/Wn, Z-220 series and D-180 series.
∗T-shape Twin Flash is patented in the U.S. (No.6,518,714) and in Japan (No.4458602).
∗Above illustrations are schematic diagrams for explanation purpose and may be different from actual situation.

Optical/Electrical Connection Compatible Flagship Underwater Strobe

Z-240 Type 4

【FULL SIZE】

The INON Z-240 carrying powerful flash, high-performance and multifunction in its compact body has further refined and evolved with 180 lumen high intensity LED light and next generation wireless TTL function. For digital cameras, film cameras, optical connection and sync cable connection, the Z-240 strobe supports every camera system with unparalleled features.

PAT Patented in the U.S. and in Japan
JP.PAT. Patented in Japan and patent pending in the U.S
US.PAT. Patented in the U.S.

Guide number 24 | Circular 100° w/o diffuser | Recycle time 1.6s | S-TTL Auto | Fine-tune exposure
Ext. Auto 24step | Manual 13step | Optical Connect | Wireless Connect | Elect. Connect | 180 lumen LED light

High power with Guide Number 24, Wide 100° circular beam distribution even without a diffuser

INON unique T-shape Twin Flash construction PAT and optimally designed reflecting mirror/prism enable effective light distribution and produce powerful guide number 24*2 at wide circular 100° beam coverage without a diffuser from compact body (outer diameter: 99mm x depth: 100㎜ x height: 122㎜)*1 run by only 4 x AA batteries. Even for shooting wide subject, the Z-240 delivers strong strobe light to an entire area without using a diffuser which suppresses strobe power. Packaged -0.5 White Diffuser 2(TTL/Manual) increases bean angle to 110 degree (guide number 21). With the white diffuser, color temperature of the Z-240 decreases at 100K (Kelvin) only to depict underwater scenery in same color regardless of using the diffuser or not.

Minimum recycle time 1.6 seconds

Minimum recycle time at full flash (how fast the strobe is ready to fire just after full flash) is approx. 1.6 sec.*3 The Z-240 unique circuit components carries two sets of fundamental electrical parts (transformer and transistor) to achieve the fast recycle time PAT.

Optical connection/electrical connection, digital/film fully compatible

The Z-240 offers all advanced features including S-TTL Auto JP.PAT. mode which supports TTL Auto exposure control by transmitting built-in flash light to an external strobe and compatibility with Clear Photo System US.PAT.. Optical connection system widely supports from transparent housing for compact digital cameras to a housing for digital SLRs with built-in flash regardless of make or model. Its sync connector accepts Nikonos 5 pin type cable to shoot in TTL Auto mode with a film camera or in Manual/External Auto mode with high end digital SLR not equipped with the built-in flash.

EV. Controller to adjust exposure of S-TTL Auto

It is simple to fine-tune flash power in S-TTL Auto by dialing the EV. Control Switch on the back control panel. Adjustable range is 3 steps to increase and 6 steps to decrease, to suit to personal preference or different exposure control characteristics among camera models.

Next generation wireless TTL

The Z-240 Type 4 successfully amplifies receiving optical signal from the slave sensor 20 times more comparing to previous Z-240 Type 3 to provide wireless S-TTL Auto mode using a mirror instead of an optical cable. Attaching optional Wireless Connection Kit on the Z-240 Type 4 and combined with a housing via Shoe Base Set or Grip Base D4 Set creates a handy S-TTL Auto shooting set.

With packaged -0.5 White Diffuser 2(TTL/Manual)

Optical D Cable Type L connection

Sync cable connection

Z-240 Type4 back

13 step Manual / 24 step External Auto

The Z-240 supports professional needs for sophisticated and precise lighting by its 13 step Manual mode with 1/2EV. increments and by semi-automatic 24 step External Auto mode with 1/4EV. increments which determines strobe output based on onboard sensor. INON unique Advanced Cancel Circuit benefits you with faster recycle time and more images per battery set to eliminate drawbacks when using with a pre-flash type digital camera where the built-in flash always burst full dump.

High-intensity 180 lumen power LED Focus Light with shutter linked auto OFF function

Multifunctional Focus Light US.PAT. for supporting focusing as well as for using as an indicator of strobe charge status since it turns on in synch with strobe's ready LED lamp. The Z-240 Type 4 uses high-intensity 180 lumen power LED as Focus Light which is also usable as an independent diving light producing 180 lumen / 20° coverage. The Focus Light automatically turns OFF in synch with shutter release where it quenches emitting light at the time of pre-flash under Optical D Cable Connection with a pre-flash type digital camera, so it is never recorded in an image*4.

Integral pre-flash mode detecting function

Fully compatible with a camera like Nikon digital SLR cameras D700/D300/D200/D90/D80 which alter number of pre-flash between once or twice depending on shooting condition making total flashes twice to three times. The Z-240 automatically identifies number of pre-flash to activate adequate program to support proper functioning of External Auto, Manual as well as precise S-TTL Auto mode.

Manual + TTL Auto mode for film cameras

Newly introduced flash mode for hard wired film camera to pre-set maximum flash power in TTL Auto exposure to compensate the weakness of the TTL Auto mode. Conventional TTL Auto may not get along with a particular situation like shooting a swimming fish without colorful back ground where TTL Auto could deliver full damp resulting from TTL error. The Manual + TTL Auto mode can avoid this problem by manually setting necessary flash output for a subject to stop firing at pre-set flash amount in case of TTL error happens and benefit you to drastically reduce overexposed images.

External Auto sensor

*1 Excluding protruded parts
*2 Measurement in air/ISO100・m, nominal value
*3 With SANYO Twiicell 2700 Series, HR-3UTG, 1.2V, Min.2,500mAh. Recycle time/flash capacity based on INON test data. Actual values may vary depending on battery manufacturer, battery type etc.
*4 Focus Light may be recorded on an image depending on camera system, connection method and shooting condition.

Full of Latest Features for Digital Era
Underwater Strobe for Professional Use

D-2000 Type 4

Solely use for Optical D Cable connection carrying high performance and multiple functions. Equipped with S-TTL Auto mode. 13 step Manual mode and 24 step External Auto mode even for professional use. The D-2000 serves you with rich features including guide number 20, 100° circular beam angle without a diffuser and high-intensity 180 lumen power LED Focus Light.

【FULL SIZE】

High power with Guide Number 20, wide 100° circular distribution even without a diffuser

Patented T-shape Twin Flash structure produces guide number 20*1 with wide circular beam angle 100° even without a diffuser to deliver strobe light wide area. The beam coverage increases to 110° with a diffuser. This ideal circular strobe light distribution does not require locating the strobe parallel to camera to support sophisticated and flexible angled lighting with strobe arm.

Precise S-TTL Auto mode works with any make

The D-2000 offers highly accurate S-TTL Auto mode by transmitting built-in flash light to an external strobe regardless of make or model of camera. The S-TTL Auto does not require any complicated setting. You do not have to buy new strobe when you upgrade from point & shoot digital camera to digital SLR camera.

Fine adjustment to match with your taste even in TTL shooting

S-TTL Auto mode provides great usability beyond traditional TTL with its fine flash output adjustment simply by dialing the EV. Control Switch on the back control panel to suits to your real (preferable) correct exposure or to compensate slightly different exposure program among different camera model.

Next generation wireless TTL

Successfully amplifies an optical signal at the slave sensor 20 times more comparing to previous Type3 to provide wireless S-TTL Auto mode without using a fiber optics with optional Wireless Connection Kit.

Supports professional needs

Semi-automatic 24 step External Auto mode works on built-in sensor for a particular situation where S-TTL Auto does not provide satisfied result, and 13 step full Manual mode for creative professional demands.

Built-in powerful 180 lumen LED Focus Light

The Focus Light assists focusing in dark underwater without influence on an image by shutter-linked auto OFF feature*2. The Type4 has upgraded 180 lumen LED to benefit you to use as independent diving flashlight as well.

Integral pre-flash mode detecting function

Fully compatible with a camera like Nikon digital SLR cameras D700/D300/D200/D90/D80 which alter number of pre-flash between once or twice depending on shooting condition. The D-2000 automatically identifies number of pre-flash to activate adequate program to support proper functioning of External Auto, Manual as well as precise S-TTL Auto mode.

D-2000 Type4 back

*1 Measurement in air/ ISO100・m, nominal value
*2 Focus Light may be recorded on an image depending on camera system, connection method and shooting condition.

Rich Fundamental Features in Ultra Compact Body
Smallest, Best Underwater Strobe

S-2000

Guide number 20, beam angle 105°×95° without a diffuser, circular 110° light distribution with a diffuser, digital camera compatible highly accurate S-TTL Auto and 12 step Manual mode, these same fundamental features as the D-2000 are filled in ultra-compact body to exert distinguished mobility.

【FULL SIZE】

Guide number 20 | Beam angle 105°×95° | Recycle time 1.5s | S-TTL Auto | Fine-tune exposure | Manual 12step | Optical Connect | Wireless Connect

Marginally downsized with high-performance

The S-2000 is operated by 4x AA batteries to provide fundamental features of strobe though 4x AA batteries operation is hostile to downsizing. The same level of basic features and durability as the D-2000 and marvelous high performance are driven with its compact body; 64mm/2.5in x 83.1mm/3.3in x 106.5mm/4.2in (W x H x D). Together with powerful and substantial Guide Number 20*1, the S-2000 benefits you with fast recycle time and remarkable flash capacity thanks to less inner wiring and efficient component parts. In addition to reliable and super accurate S-TTL Auto mode, 12 step Manual mode supports professional lighting. Other features include the EV. Controller to make fine adjustment when shooting in S-TTL Auto and auto-switching function to accommodate to various pre-flash type (single or double pre-flash) digital camera.

Next generation wireless TTL function

The S-2000 strobe has ultra sensitive slave sensor which is 100 times more sensitive comparing to the slave sensor of D-2000 Type3 strobe and successfully enables to support wireless S-TTL Auto flash control without using an Optical D Cable. Also the sensitivity of the slave sensor dramatically lengthens synch range of Manual flash mode. The package includes a Wireless Connection Kit which optimizes built-in flash light reception at the slave sensor. It is easy to use wireless S-TTL Auto shooting simply attached the strobe on compatible underwater housing via INON Shoe Base Set or Grip Base D4. You can enjoy shooting vivid underwater world with powerful external strobe with holding a rig one hand. Using Optical D Cable connection ensures more reliable flash sync in severe condition with bright ambient light like just under surface.

Natural color even with a diffuser

Beam angle without a diffuser is 105°×95° which increase to circular 100° with supplied -0.5 White Diffuser for S-2000. The diffuser is made from customized material not to change color of strobe light where strobe color temperature drops only 100K (Kelvin). You can have same color tone between macro shooting without the diffuser and wide shooting with the diffuser to widen strobe beam angle.

*1 Measurement in air/ISO100・m, nominal value

S-2000 back

Battery box

with a Mirror unit

with supplied -0.5 White Diffuser

【Z-240 Type4／D-2000 Type4／S-2000 specifications】

Model	INON Z-240 Type4	INON D-2000 Type4	INON S-2000
Strobe Control Mode(∗1)	S-TTL Auto / External Auto / Manual / TTL Auto / Manual+TTL Auto (∗10)	S-TTL Auto / External Auto / Manual / TTL Auto(∗11)	S-TTL Auto / Manual / TTL Auto(∗12)
Connection (∗1)	Wireless connection / Optical D Cable / Optical Cable / Optical D Slave Cable / Electrical Cable(∗14)	Wireless connection / Optical D Cable / Optical Cable / Optical D Slave Cable	Wireless connection / Optical D Cable / Optical D Slave Cable
Guide Number (∗2)	24 [without a diffuser] 21 [with supplied -0.5 White Diffuser 2] 14 [with optional -1.5 White Diffuser 2]	20 [without a diffuser] 17 [with optional -0.5 Diffuser 2] 12 [with optional -1.5 Diffuser 2]	20 [without a diffuser] 17 [with supplied -0.5 White Diffuser]
Settable Flash Output(∗2)	24(FULL) 21(-0.5) 17(-1) 14(-1.5) 12(-2) 10(-2.5) 8.5(-3) 7.1(-3.5) 6.0(-4) 5.0(-4.5) 4.2(-5) 3.6(-5.5) 3.0(-6) (13 steps in 1/2EV. increments)	20(FULL) 17(-0.5) 14(-1) 12(-1.5) 10(-2) 8.4(-2.5) 7.1(-3) 5.9(-3.5) 5.0(-4) 4.2(-4.5) 3.5(-5) 3.0(-5.5) 2.5(-6) (13 steps in 1/2EV. increments)	20(FULL) 17(-0.5) 14(-1) 12(-1.5) 10(-2) 8.4(-2.5) 7.1(-3) 5.9(-3.5) 5.0(-4) 4.2(-4.5) 3.5(-5) 3.0(-5.5) (12 steps in 1/2EV. increments)
Settable Aperture Value(∗3)	F1.4+1/2EV. - F11 (1/2EV.increments, 12steps) F1.4+1/2EV. - F11+1/4EV. (1/4EV.increments, 24steps)	F1.4+1/2EV. - F11 (1/2EV.increments, 12steps) F1.4+1/2EV. - F11+1/4EV. (1/4EV.increments, 24steps)	—
Focus Light(LED) Intensity	180lm(∗4)	180lm(∗4)	—
Beam Angle	100°×100°circular beam [without a diffuser] 110°×110°circular beam [with a diffuser] 20° [Focus Light (LED)]	100°×100°circular beam [without a diffuser] 110°×110°circular beam [with a diffuser] 20° [Focus Light (LED)]	105°(horizontal)×95°(vertical) [without a diffuser] 110°×110°circular beam [with supplied -0.5 White Diffuser]
Color Temp.	5500K [flash light, without a diffuser] 5400K [flash light, with supplied -0.5 White Diffuser 2] Approx. 6000K [Focus Light (LED)]	5500K [flash light, without a diffuser] 5400K [flash light, with optional "white" diffuser] Approx. 6000K [Focus Light (LED)]	5500K [flash light, without a diffuser] 5400K [flash light, with supplied -0.5 White Diffuser]
Recycle Time (∗5) (∗7)	Approx.1.7 seconds minimum ["eneloop" batteries (*8)] Approx.1.6 seconds minimum [NiMH batteries (*9)] Approx.2.3 seconds minimum [Alkaline batteries] Approx.2.5 seconds minimum [Lithium(1.5V) batteries]	Approx.1.8 seconds minimum ["eneloop" batteries (*8)] Approx.1.8 seconds minimum [NiMH batteries (*9)] Approx.2.3 seconds minimum [Alkaline batteries] Approx.2.5 seconds minimum [Lithium(1.5V) batteries]	Approx.1.5 seconds minimum ["eneloop" batteries (*8)] Approx.1.5 seconds minimum [NiMH batteries (*9)] Approx.1.6 seconds minimum [Alkaline batteries] Approx.2.1 seconds minimum [Lithium(1.5V) batteries]
Flash Capacity (∗5) (∗7)	Approx. 240 flashes: ["eneloop" batteries (*8)] Approx. 320 flashes: [NiMH batteries (*9)] Approx. 220 flashes: [Alkaline batteries] Approx. 380 flashes: [Lithium(1.5V) batteries]	Approx. 420 flashes ["eneloop" batteries (*8)] Approx. 520 flashes [NiMH batteries (*9)] Approx. 400 flashes [Alkaline batteries] Approx. 660 flashes [Lithium(1.5V) batteries]	Approx. 450 flashes ["eneloop" batteries (*8)] Approx. 570 flashes [NiMH batteries (*9)] Approx. 430 flashes [Alkaline batteries] Approx. 670 flashes [Lithium(1.5V) batteries]
Focus Light(LED) Operable Duration (∗6) (∗7)	Approx. 2hrs 20 min ["eneloop" batteries (*8)] Approx. 2hrs 50 min [NiMH batteries (*9)] Approx. 2hrs 00 min [Alkaline batteries] Approx. 4hrs 00 min [Lithium(1.5V) batteries]	Approx. 3hrs 30 min ["eneloop" batteries (*8)] Approx. 3hrs 30 min [NiCad batteries (*9)] Approx. 2hrs 15 min [Alkaline batteries] Approx. 4hrs 15 min [Lithium(1.5V) batteries]	—
Compatible Batteries	AA "eneloop"(HR-3UTG) x 4 (*8) AA NiMH x 4 (*9) AA Alkaline x 4 AA Lithium(1.5V) x 4 (Manganese batteries is not compatible)	AA "eneloop"(HR-3UTG) x 4 (*8) AA NiMH x 4 (*9) AA Alkaline x 4 AA Lithium(1.5V) x 4 (Manganese batteries is not compatible)	AA "eneloop"(HR-3UTG) x 4 (*8) AA NiMH x 4 (*9) AA Alkaline x 4 AA Lithium (1.5V) x 4 (Manganese batteries is not compatible)
Focus Light Mode	【Continuous mode】 Shutter linked auto OFF (manually turns ON/turns OFF upon shutter release/ automatically turns ON after approx. 0.5 second) 【Single mode】 Shutter linked auto OFF (manually turns ON/turns OFF upon shutter release)	【Continuous mode】 Shutter linked auto OFF (manually turns ON/turns OFF upon shutter release/ automatically turns ON after approx. 0.5 second) 【Single mode】 Shutter linked auto OFF (manually turns ON/turns OFF upon shutter release)	—
Dimensions	Diameter:99mm/3.9in Height:122mm/4.8in Depth:100mm/3.9in (Not including Slave Sensor and Arm Base)	Diameter:99mm/3.9in Height:122mm/4.8in Depth:100mm/3.9in (Not including Slave Sensor and Arm Base)	Diameter:64mm/2.5in Height:83.1mm/3.3in Depth:106.5mm/4.2in (Including Slave Sensor and Arm Base)
Weight	[air] 583g/20.6oz (without batteries) [underwater] Approx. 77g/2.7oz (with 4 "eneloop" batteries)	[air] 544g/19.2oz (without batteries) [underwater] Approx. 47g/1.7oz (with 4 "eneloop" batteries)	[air] 295g/10.4oz (without batteries) [underwater] Approx. 69g/2.4oz (with 4 "eneloop" batteries)
Working Temperature	0℃～30℃ /32°F～86°F [water temperature]	0℃～30℃ /32°F～86°F [water temperature]	0℃～30℃ /32°F～86°F [water temperature]
Storage Temperature	0℃～30℃ /32°F～86°F [air temperature] +50℃ /122°F (temporary allowable temperature limit)	0℃～30℃ /32°F～86°F [air temperature] +50℃ /122°F (temporary allowable temperature limit)	0℃～30℃ /32°F～86°F [air temperature] +50℃ /122°F (temporary allowable temperature limit)
Depth Rating	100m/328ft	100m/328ft	100m/328ft
Body Material/ Color	Polycarbonate resin / gray	Polycarbonate resin / red	Polycarbonate resin / red
Package Contents	Synch Connector Cap, Slave Sensor Cap, -0.5 White Diffuser 2 (TTL/Manual), W40° Filter LE, Red Filter LE, Light Filter Sticker Red, AC Circuit Switch Sticker (Film/Digital), Electrical Connection TTL Sticker, Spare O-ring (Battery Box, Synch Connector), INON Grease, TTL Insulation Plate x 2	Magnet Screw, Magnet, Magnet Screw Tighter, Spare O-ring (Battery Box), INON Grease, Light Filter Sticker Red	-0.5 White Diffuser, Magnet, Magnet Screw, Spare O-ring (Battery Box), INON Grease, Wireless Connection Kit

∗1 Flash modes/connection method varies depending on camera system. Also flash mode varies depending on connection method.

∗2 Measurement in air/ISO100・m, nominal value

∗3 Usable for External Auto mode. At ISO100 equivalent film sensitivity.

∗4 Nominal value by LED manufacture.

∗5 Measured with FULL strobe output at 30 seconds intervals with both Focus Light (Z-240, D-2000) and Advanced Cancel Circuit OFF, at 25℃/77°F giving 10 minutes cooling period every 50 flashes using test batteries listed in right.

∗6 Operable duration is accumulated time of continuous mode with 5 minute cooling OFF every 30 minutes (Z-240) / 60 minutes (D-2000) at 25℃/77°F with test batteries. *Cooling OFF time is excluded.

∗7 Recycle Time / Flash Capacity / Focus Light operable duration (Z-240, D-2000) based on INON test data. Actual values may vary depending on battery manufacturer, battery type and age.

∗8 Including listed "new generation" NiMH batteries ("eneloop" type) having less self-discharging and heat generation characteristic comparing to "conventional" or "high-capacity" NiMH and confirmed compatibility by INON INC.

∗9 Some "conventional" or "high-capacity" NiMH rechargeable batteries have significant self-discharge and heat-generating characteristic resulting difficulty to keep their performance during usage. We recommend to use recommended batterie.

∗10 Usable when connecting to TTL Auto compatible camera / camera system via an electrical cable.

∗11 Usable when connecting to INON X1 series or Optical Converter TTL using Optical Cable Connection, or connecting to TTL operating INON strobe (*13) by Optical D Slave Cable Connection.

∗12 Only compatible when connecting to TTL operating INON strobe (*13) by Optical D Slave Cable Connection.

∗13 S-2000, Z-240, D-2000, D-2000S, D-2000W, D-2000Wn

∗14 Compatible cord: 5-pin Sync Cord/N (Sea&Sea)

Please visit INON web site for updated / detailed information of compatible function and operational limitations for different camera/camera system.

【Test battery】

"eneloop" battery	SANYO "eneloop", HR-3UTG, 1.2V, Min.1,900mAh, Typ.2,000mAh
NiMH battery	SANYO Twicell 2700 series, HR-3UG, 1.2V, Min2,500mAh, Typ.2,700mAh
Alkaline battery	Z-240/D-2000：Maxcell ALKALINE ACE, LR6(K), 1.5V S-2000：Maxcell ALKALINE ACE"voltage", LR6(T), 1.5V
Lithium battery(1.5V)	FUJIFILM/Energizer LITHIUM, FR6, 1.5V

【New generation NiMH batteries】

SANYO Electric Co., Ltd	Model name: “eneloop” (recommended) Model code: HR-3UTG
SONY Corporation	Model name: Cycle Energy Blue Model code: NH-AA-2BKA、NH-AA-4BKA
Panasonic Corporation	Model name: Rechargeable NiMH(AA) Model code: HHR-3MPS
Maha Energy Corporation	Model name: IMEDION Model code: MHRAAI4
GP Batteries International Ltd.	Model name: ReCyko+ Model code: 210AAHCBE
ANSMANN AG	Model name: maxE Model code: 5030991、5030992、5035052
Electrochem Automation Inc.	Model name: NEXcell energyON Model code: n/a(AA 2000mAh)

INON
STROBE TECHNOLOGY

Optical Connection System for Reliable Strobe Flashing

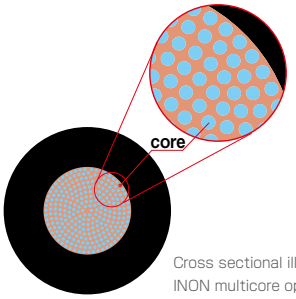
INON Optical D Cable Type L transmits built-in flash light via fiber optics.
Easy to use to trigger Z-240/D-2000/S-2000 without fail.

Multicore Optical D Cable Type L efficiently conveys built-in flash light

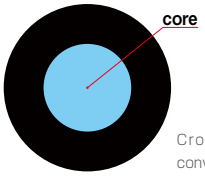
INON Optical D Cable Cap (Bush) Set catches light from built-in flash of a digital camera stored in a housing underwater to trigger Z-240/D-2000/S-2000 without fault. Connecting via Optical D Cable Type L which uses fiber optics enables to trigger an external strobe more reliably comparing to conventional wireless slave system, even in bright condition like just under the surface or shooting backlit subject.

The INON optical fiber has distinctive advantage being made up of more than 200 fibers and each single fiber is thinner than hair carrying high tolerance against breakage with unbelievable minimum bend radius 2mm. Though other manufacture's optical fiber looks like same as INON's optical fiber, their structure is single core which limits its minimum bend radius to about 10mm. At the minimum bend radius, the single core type fiber optics loses about 50% of optical signal resulting in poor flashing of external strobe. INON's multicore type optical fiber loses almost NO optical signal when bending at 10mm bend radius to support reliable external strobe flashing. Multicore fiber optics acquires not only assure signal transmission but also enables to have high quality scroll design.

High tolerant plastic optical fiber. No damage even pinched like this. The high tolerance leads secure optical signal transmission. Left figures are structural drawings of optical fibers.



Cross sectional illustration of INON multicore optical fiber



Cross sectional illustration of conventional single core optical fiber

Optical D Cable Type L Cap (Bush) Set reliably triggers strobe

It is essential to catch built-in flash light effectively to benefit faultless flashing of Z-240/D-2000/S-2000 via durable INON optical fiber. So each set has unique light receiving unit specifically designed for respective housing to locate the bear end of Optical D Cable Type L in front of light emitting part of camera's built-in flash. The light receiving part is equipped with a mirror to collect the built-in flash light. Each mirror is specially constructed for particular camera to suit to its built-in flash location.

The light receiving unit can accept maximum two Optical D Cable Type L. So it is easy to set-up dual strobe configuration only with an additional Optical D Cable Type L.

Once Optical D Cable Type L is fixed on a housing or Mount Base, screw the connector on the slave sensor of Z-240/D-2000/S-2000. Simple yet reliable INON optical connection system never miss precious moment to capture even in severe underwater.

Attached on a Mount Base

Attached on white diffuser panel of a housing

Attached on a dedicated optical connector of Panasonic marine case

Plug a fiber optics in Olympus/Sea&Sea/FUJIFILM type connector with a rubber bush

Strobe connector is screwed on the slave sensor of Z-240/D-2000/S-2000

OPTICAL CONNECTION

Optical D Cable Type L conveys built-in flashlight to a strobe.
Designed for each housing to support easy and reliable connection.

Optical D Cable Type L

Optical D Cable SS Type L

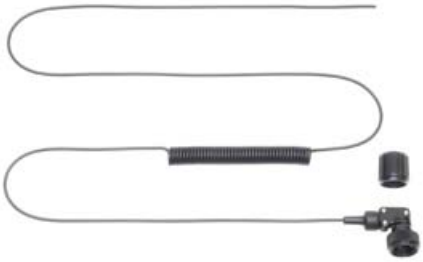
■Free length: approx. 24cm/9in

Optical D Cable Type L

■Free length: approx. 43cm/17in

Optical D Cable L Type L

■Free length: approx. 68cm/27in

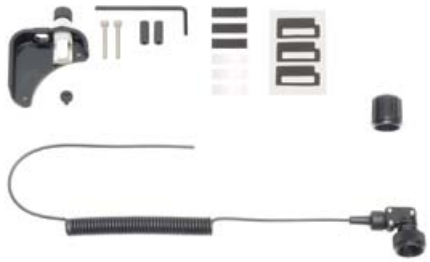


Optical D Cable LL Type L

■Free length: approx. 110cm/43in

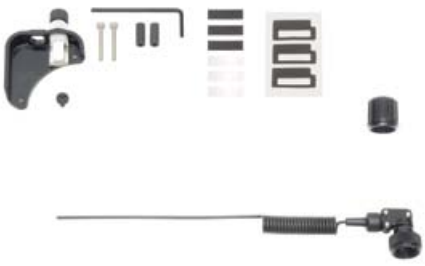
Fiber optics kit for a housing which directly accepts bear end of Optical D Cable Type L and also usable to connect second strobe. Four different length products are available; Optical D Cable SS Type L (free length approx. 24cm/9in), Optical D Cable Type L (free length approx. 43cm/17in), Optical D Cable L Type L (free length approx. 68cm/27in) and Optical D Cable LL Type L (free length approx. 110cm/43in).

Optical D Cable Type L / Cap Set



Optical D Cable Type L / Cap Sets

Set of Optical D Cable Type L (free length 43cm/17in), Shade Panel Unit/Holder Unit to mount the cable on an underwater housing or Mount Base and Clear Photo System etc.

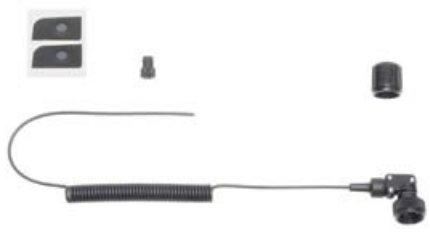


Optical D Cable SS Type L / Cap Sets

Cap set of Optical D Cable SS Type L (free length 24cm/9in) for a camera system where an external strobe is directly attached on an underwater housing at its accessory shoe via Shoe Base Set.

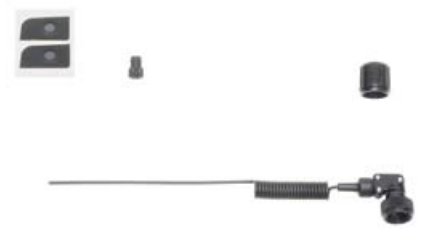
Fiber optics set to link INON strobe and genuine underwater housing from Canon/Olympus/Panasonic/Fujifilm/Nikon. Each set consists of necessary component parts for specific camera/housing including durable Optical D Cable Type L, Shade Panel Unit or Holder Unit which mounts the cable on an underwater housing or Mount Base and Clear Photo System etc. Using fiber optics provides more reliable strobe firing comparing to wireless slave connection especially in bright condition. Maximum two cables can be plugged in the light receiving part to support dual strobe configuration only with optional Optical D Cable Type L.

Optical D Cable Type L / Bush Set



Optical D Cable Type L / Bush Sets

Set of Optical D Cable Type L (free length 43cm/17in), Double Hole Rubber Bush for Fiber Optics and Clear Photo System etc.



Optical D Cable SS Type L / Bush Sets

Bush set of Optical D Cable SS Type L (free length 24cm/9in) for a camera system where an external strobe is directly attached on an underwater housing at its accessory shoe via Shoe Base Set.

Fiber optics set which consists of Double Hole Rubber Bush for Fiber Optics to attach Optical D Cable Type L on an optical connector of a genuine housing from Olympus/Fujifilm and Clear Photo System/Shade Sticker etc. The Double Hole Rubber Bush for Fiber Optics can have maximum two Optical D Cable Type L to support dual strobe configuration only with optional Optical D Cable Type L.

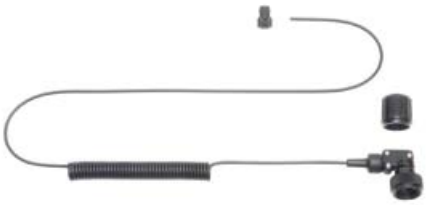
Optical D Cable Type L / Double Hole Rubber Bush Set

Optical D Cable SS Type L /
Double Hole Rubber Bush Set

■Free length: approx. 24cm/9in

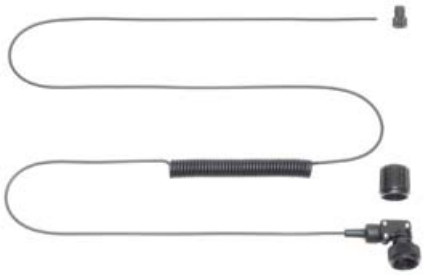
Optical D Cable Type L /
Double Hole Rubber Bush Set

■Free length: approx. 43cm/17in



Optical D Cable L Type L /
Double Hole Rubber Bush Set

■Free length: approx. 68cm/27in



Optical D Cable LL Type L /
Double Hole Rubber Bush Set

■Free length: approx. 110cm/43in

Fiber optics kit including Double Hole Rubber Bush for Fiber Optics which is plugged in a fiber cable connector of Olympus / Sea&Sea system to hold Optical D Cable Type L. Four different lengths from free length 24cm/9in (SS) up to 110cm/43in (LL) are available to suit to various configurations.

Double Hole
Rubber Bush
for Fiber Optics

The rubber bush which is packaged in Optical D Cable Type L Double Hole Rubber Bush Set. Available as standalone product for those who already have Optical D Cable.

Optical D Slave Cable Type L

Optical D Slave Cable Ⅱ Type L

■Compatible strobe: Z-240/D-2000 series/D-180 series/Z-220 series

Optical D Slave Cable Ⅲ Type L

■Compatible strobe: S-2000

An optical cable product to connect two INON strobes. A light receiving part is attached on front surface of a main strobe which is triggered by a camera signal to transmit main strobe's flash light to a sub strobe via optical fiber to fire the sub strobe simultaneously supporting reliable operation and free from synch problem even in bright area. The Optical D Slave Cable is useful to expand your lighting system even camera's optical connector is limited. Two types are available depending on a main strobe to use.

Wireless Connection

Wireless Connection Kit

Optional accessory kit for wireless connection. The kit includes a mirror unit to be attached on strobe slave sensor and camera mirror/camera mirror sticker to be pasted on camera system.
■Compatible strobe: Z-240Type4/D-2000 Type4/S-2000
(The S-2000 comes with the Wireless Connection Kit)

Adapter

Rubber Bush-M11 Adapter

This adapter is to plug Optical D Cable Type L Double Hole Rubber Bush for Fiber Optics Set on screw mount type fiber optics adapter which is used for INON X1-LZ/X1-NZ/X1-Z housings and Optical Converter D/TTL.

Strobe Cover D/Z

A strobe cover made from neoprene as same as wet-suits for underwater use. This cover protects strobe from accidental damage during diving as well as transportation by its cushioned material. Two slits on both sides are designed for effective radiation.

INON
S-TTL STROBE OPTION

DIFFUSER

Diffusers increase strobe beam angle.
INON's diffusers control color tone to enhance your creativity.

-0.5 White Diffuser 2 (External Auto)

Compatible strobe:
Z-240/D-2000/D-2000W/
D-2000Wn/D-180/D-180S
Beam angle: Circular 110°
Effect on strobe power: -0.5 EV.

-1.5 White Diffuser 2 (External Auto)

Compatible strobe:
Z-240/D-2000/D-2000W/
D-2000Wn/D-180/D-180S
Beam angle: Circular 110°
Effect on strobe power: -1.5 EV.

-0.5 White Diffuser 2 (TTL/Manual)

Compatible strobe:
Z-240(packaged in the Z-240)/
D-2000/D-2000S/D-2000W/
D-2000Wn/Z-220F/Z-220S/Z-220
Beam angle: Circular 110°
Effect on strobe power: -0.5 EV.

-1.5 White Diffuser 2 (TTL/Manual)

Compatible strobe:
Z-240/D-2000/D-2000S/
D-2000W/D-2000Wn/Z-220F/
Z-220S/Z-220
Beam angle: Circular 110°
Effect on strobe power: -1.5 EV.

-0.5 Blue Diffuser 2 (External Auto)

Compatible strobe:
Z-240/D-2000/D-2000W/
D-2000Wn/D-180/D-180S
Beam angle: Circular 110°
Effect on strobe power: -0.5 EV.

-0.5 Blue Diffuser 2 (TTL/Manual)

Compatible strobe:
Z-240/D-2000/D-2000S/
D-2000W/D-2000Wn/Z-220F/
Z-220S/Z-220
Beam angle: Circular 110°
Effect on strobe power: -0.5 EV.

Color Temperature Conversion Filter (4900K)

Compatible strobe :
Z-240/D-2000/D-2000S/
D-2000W/D-2000Wn/Z-220F/
Z-220S/Z-220
Beam angle: Circular 100°
Color temperature: 4900K

-0.5 (4900K) Diffuser 2 (TTL/Manual)

Compatible strobe:
Z-240/D-2000/D-2000S/
D-2000W/D-2000Wn/Z-220F/
Z-220S/Z-220
Beam angle: Circular 110°
Effect on strobe power: -0.5 EV.
Color temperature: 4900K

Color Temperature Conversion Filter (4600K)

Compatible strobe:
Z-240/D-2000/D-2000S/
D-2000W/D-2000Wn/Z-220F/
Z-220S/Z-220
Beam angle: Circular 100°
Color temperature: 4600K

-0.5 (4600K) Diffuser 2 (TTL/Manual)

Compatible strobe:
Z-240/D-2000/D-2000S/
D-2000W/D-2000Wn/Z-220F/
Z-220S/Z-220
Beam angle: Circular 110°
Effect on strobe power: -0.5 EV.
Color temperature: 4600K

W50°Filter LE

This filter effectively increases Focus Light coverage to about 50° with even brightness which is ideal to light close range.

-0.5 White Diffuser for S-2000

Compatible strobe: S-2000 (packaged in the S-2000)
Beam angle: Circular 110°
Effect on strobe power: -0.5 EV.

-0.5 Blue Diffuser for S-2000

Compatible strobe: S-2000
Beam angle: Circular 110°
Effect on strobe power: -0.5 EV.

Color Temperature Conversion Filter (4900K) for S-2000

Compatible strobe: S-2000
Beam angle : 105° x95°
Color temperature: 4900K

-0.5 (4900K) Diffuser for S-2000

Compatible strobe: S-2000
Beam angle: Circular 110°
Effect on strobe power: -0.5 EV.
Color temperature: 4900K

Color Temperature Conversion Filter (4600K) for S-2000

Compatible strobe: S-2000
Beam angle: 105° x95°
Color temperature: 4600K

-0.5 (4600K) Diffuser for S-2000

Compatible strobe: S-2000
Beam angle: Circular 110°
Effect on strobe power: -0.5 EV.
Color temperature: 4600K

Beam angle is circular 110°

INON diffusers widen strobe beam angle circular 110°. A diffuser is must item for wide shot or to cover variation of strobe positioning even with standard lens. Another advantage of using a diffuser is to soften strobe light, which helps to deliver natural and even light especially for macro shooting. The -0.5 Diffuser drops strobe power only a half stop, so it is possible to use all time unless full flash amount is necessary.

Two types of white diffusers for different flash power adjustment

You can select either diffuser for different flash power adjustment. Each one has -0.5 or -1.5 stop reduction effect. In S-TTL Auto mode operation with dual strobe configuration, shadow can be controlled by either attaching diffuser only one side or using different diffuser for each side.

Fly-eye filter effectively diffusing Focus Light Red filter for wild life observation

INON Diffuser 2 comes with two filters. A hollow diffusing filter W40° Filter LE made from two laminated high transmittance optical grade acrylic fly-eye lens to extend Focus Light coverage up to 40° with less light attenuation. Another Red Filter LE changes light color to red not to stimulate light-sensitive subject for observation or macro shooting. The red filter also works to enhance accuracy of S-TTL Auto in super macro imaging by reducing influence of the Focus Light on camera's exposure control.

with the W40° Filter LE

with the Red Filter LE

Color temperature of white diffuser is 5400K

White diffusers adjust flash output and widen beam angle with minimal color temperature change. The color temperature of strobe beam through a white diffuser is 5400K which is only 100K less comparing strobe light without the white diffuser. INON white diffuser is designed to have same color temperature of sunlight.

Blue diffusers prevent yellowish/reddish characteristic of digital camera

INON blue diffuser is designed to suppress particular color compensation characteristic to be yellowish/reddish by mainly Canon digital cameras when firing the built-in flash. Using this blue diffuser supports to capture a subject in natural color.

Color Temperature Conversion Filters/ Diffusers to warm strobe light

Color Temperature Conversion Filter (4900K) and -0.5 (4900K) Diffuser drop strobe color temperature from 5500K to 4900K. Color Temperature Conversion Filter (4600K) and -0.5 (4600K) Diffuser drop strobe color temperature from 5500K to 4600K. Warming strobe light is useful to capture diver's skin more healthy or accentuate warm color subject. Also converting RAW files at 4900K or 4600K can have richer blue water back ground with natural color subject illuminated by a strobe.

Dissuer 2 (External Auto) supports all strobe modes

INON Z-240/D-2000 strobe is equipped with the External Auto mode where built-in Light Adjustment Sensor on strobe's front side meters subject reflectivity to control flash output. This diffuser has dedicated window for the sensor.

＊If you mainly use S-TTL Auto and not using External Auto mode, then budget priced Diffuser 2 (TTL/Manual) would be recommended.

Using a blue diffuser captured the nudibranch in natural color making clear result.
■Camera : Canon IXY400

Not using a blue diffuser captured white part of the nudibranch reddish making dull result.
■Camera : Canon IXY400

Dedicated window for Light Adjustment Sensor

SNOOT SET

Narrow down the strobe light.
Spotlight effect generates new artistic touch on underwater photography.

The INON Snoot Set is an accessory to change beam angle. The various combinations of two steps telescopic Rubber Hood, Snoot Tube 26 (inner diameter 26mm) and Snoot Tube 10 (inner diameter 10mm) deliver following sophisticated effects.

- ●To block extra diffused light eliminating backscatter
- ●To highlight a subject by illuminating the subject only
- ●To give a spotlight effect on a subject etc.

The telescopic structure of the Rubber Hood helps to save space for storage.

Snoot Set for S-2000

Compatible strobe: S-2000
Beam angle: approx. 16° to approx. 105° (horizontal)
Set contents: Rubber Hood 52, W40° Filter LE x 2, Snoot Tube 10, Snoot Tube 26

Snoot Set for Z-240/D-2000

Compatible strobe: Z-240/D-2000/D-2000S/D-2000W/ D-2000Wn/Z-220F/Z-220S/Z-220
Beam angle: approx. 20° to approx. 100°
Set contents: Rubber Hood 72, Rubber Hood Sleeve, Step up Ring, W40° Filter LE x 2, Snoot Tube 10, Snoot Tube 26

■When using Snoot Set....

* Always conduct test shots to familiar with the product characteristic before you take an important shot. When using the strobe in S-TTL Auto mode for spotlight effect of this product, spot metering mode on a camera is recommended since average metering mode or multi pattern metering mode could wash out the center of an image.
* Z-240, D-2000W, D-2000Wn, D-2000, D-180 and D-180S combined with this product cannot support External Auto mode.
* When you entry with this product being attached on a strobe, make sure to evacuate remaining air inside of the Rubber Hood before you get underwater.
* Slave D Holder Unit of the Optical D Slave Cable 2 Type L or the Optical D Cable 3 Type L is not compatible with this product.
* A diffuser panel cannot be used together with this product.
* The Snoot Tube will reduce available intensity of the built-in Focus Light.
* Make sure to cool down the strobe according to instruction manual/Compatible battery, operational limitation on flashing leaflet provided with the strobe, to prevent overheating/degradation of light emitting part/inner components. The light emitting part could have discoloration or burn when excessive repeated flashes are made. Should you observe any irregularity mentioned above, stop using the strobe immediately.
* Always extend the Rubber Hood when using the Snoot Tube 10 or Snoot Tube 26 together to prevent possible damage on light emitting part and/or inner circuit of the strobe etc. since generated heat could stay close to the light emitting part.

Photo data
Strobe: Z-240, Snoot Set for Z-240/D-2000
with Rubber Hood 72 and Step up Ring
- Subject: Luna Lionfish
- Camera: Canon EOS 5D Mark Ⅱ, EF16-35mm
- F9, 1/6sec, ISO200
- Location: Osezaki, Shizuoka, JAPAN

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Photo data
Strobe: S-2000, Snoot Set for S-2000
with Rubber Hood 52 and Snoot Tube 10
- Subject: Arrow crab
- Camera: Nikon D80, Micro-Nikkor 60mm
- F16, 1/100sec, ISO100
- Location: Osezaki, Shizuoka, JAPAN

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ARM SYSTEM

An Arm System is an essential accessory to connect a strobe and housing to control lighting to create more beautiful images. INON offers wide variety of arm products and options from basic to professional level to provide best suited system.

Connection Parts

Various connection parts are available including a direct base which is a fundamental part to extend an arm product etc. from a grip part of an arm base, an adapter or light holder to attach a strobe or LED flashlight on an arm, and a clamp to connect these connection parts each other as like a joint.

Options

Optional accessories to have add-on function including a lens holder to hold an attachment lens on an arm, joint part to hold a strobe or LED flashlight on the middle of arm and a float to add buoyancy underwater.

Arm Body

INON Arm line-up offers different lengths to select most appropriate arm length for different size and kind of subject, shooting conditions like visibility and lens configuration (close-up lens or wide conversion lens) to use. Also there is a selection of functionality among standard Stick Arms, Multi Ball Arms to bifurcate and Float Arms to have buoyancy.

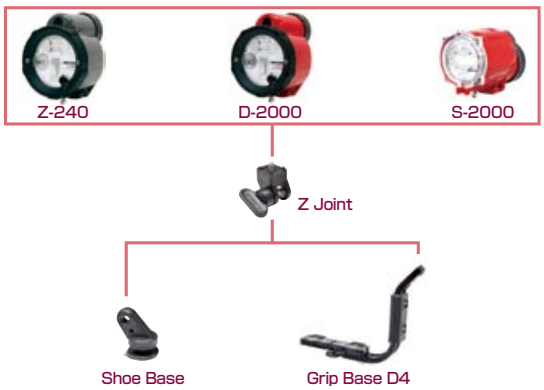
Arm Base

It is necessary to have an arm base to connect a strobe or LED flashlight on an underwater housing. There are three types which are the Grip Base D4 for compact cameras, Grip Base M1 mainly for mirrorless cameras and System BaseⅡ for SLR cameras. All of them have integrated grip to hold a strobe or LED flashlight on the top edge of the grip via arm or adapter. For a housing with an accessory shoe, the Shoe Base is available to hold a strobe or LED flashlight directly.

Shoot with Easy and Handy system

A minimum set connecting a strobe and housing via Shoe Base or Grip Base D4 to enjoy both diving and underwater photography with a compact rig. Wireless S-TTL Auto is usable for Z-240 Type4/D-2000 Type4/S-2000.

Single strobe set to start external strobe shooting easily

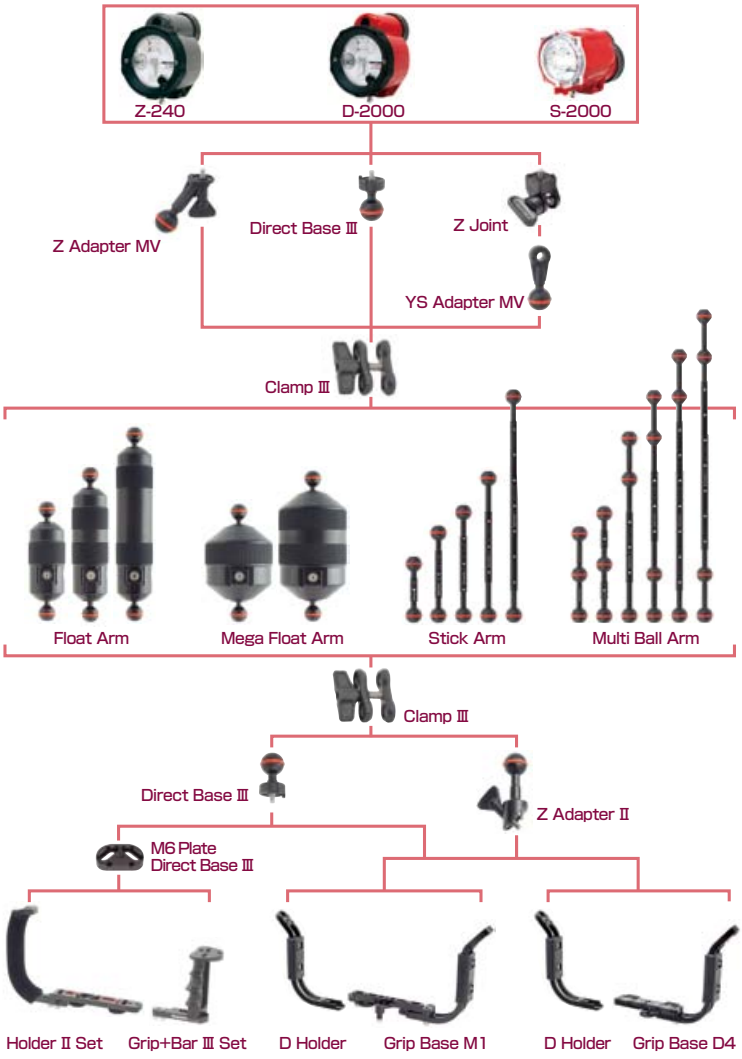


Shoot with Multiple Lighting system

INON offers variety of arms including different length arms, arms to bifurcate and buoyant arms to provide every possible combination to suite to subject size and nature, combined equipment and diving style for more creative and stunning images.

Expands compact digital camera system with extended arms and multiple strobes

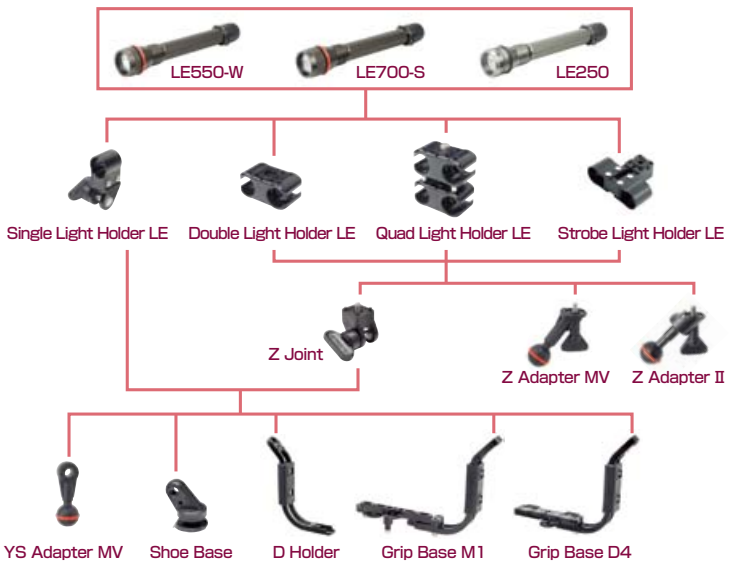
Expandable optional accessories reliably support digital SLR housing



Shoot Vivid Video

A light holder to hold LE series LED flashlight is also available to shoot video. As same as strobe, a video light is attached on an INON arm system. It is possible to combine both strobe and LED flashlight together on a video capable digital camera.

Wide variety of accessories to use vital LED flashlight for videography



INON ARM SYSTEM

ARM BASE

Holds camera and strobe/light tight.
Expandable versatile arm base.

Grip Base D4

Grip Base D4

■Weight: 250g(8.8oz)[air] / approx.142g(5.0oz)[underwater]

D Holder

■Weight: 150g(5.3oz)[air] / approx.77g(2.7oz)[underwater]

Grip Base D4 Set

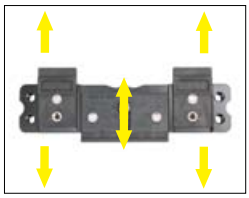
Combination of Grip Base D4 and Z Joint supporting wireless function of Z-240 Type4/D-2000 Type4/S-2000.
■Weight: 296g(10.4oz)[air] / approx.165g(5.8oz)[underwater]

A base stay with strobe arm function for compact digital camera housing. Simply attaching an INON strobe directly on the Grip Base D4 to create handy single strobe system. It is also easy to set-up a customized camera system for your shooting style only by adding compatible arm or optional accessory.

No loose ! No rattle !

The Grip Base D4 is equipped with newly developed SPS (Slide Plate System) and directly attached on more than 100 different water-proof housings. The SPS provides loose-proof structure by to-and-fro adjustable main plate and two sub plates to hold bottom part of compatible housing securely (Patent P.). When using a close-up lens or wide conversion lens, the Grip Base D4 is attached on a Mount Base or Lens Adapter Base firmly with two M6 screws. The loose-proof Grip Base D4 supports you to focus on shooting without any extra work to retighten it during use.

■Slide Plate System
To-and-fro sliding main plate and two sub plates firmly hold leg part of an underwater housing. The Grip Base D4 helps you to focus on shooting without worrying loose or backlash.



Wireless strobe shooting

It's easy to start external strobe shooting right away by simply attaching INON Z-240 Type4/D-2000 Type4/S-2000 strobe on the Grip Base D4 Set thanks to their wireless connection capability. INON strobe benefits you to capture underwater scenery vividly with its powerful output and substantial features.

■Wireless S-TTL Capability
It is easy to start wireless S-TTL Auto shooting simply by attaching INON Z-240 Type4/D-2000 Type4/S-2000 strobe directly on the Grip Base D4 Set.

Unlimited expandability

The Grip Base D4 is compatible with wide variety of INON arm system to attach strobe or LED flashlight. Only additional Shoe Base Adapter D4 and Shoe Base on a basic setting where a strobe is directly attached on the Grip Base D4 via Z Joint, will add flexibility on lighting options. Combination of Direct Base Ⅲ or Multi Direct Base Ⅱ Long and INON arm further enhances flexibility of strobe positioning to suit to size of a subject or distance to it. Optional D Holder Extension Bar enables to hold a lens holder to carry an attachment lens not in use. Extra D Holder makes it easy to set-up a multiple lighting system with dual strobe on both sides.

Z Joint

Shoe Base attached via Shoe Base Adapter D4

Direct Base Ⅲ

Multi Direct Base Ⅱ Long

Z Adapter Ⅱ

D Holder Extension Bar with Lens Holder

Shoe Base

Shoe Base

■Weight: 41g(1.4oz)[air] /
approx.20g(0.7oz)[underwater]

Shoe Base Set

A set of the Z Joint and Shoe Base. Useable when shooting with Z-240 Type4/D-2000 Type4/S-2000 in wireless mode.
■Weight: 87g(3.1oz)[air] /
approx.43g(1.5oz)[underwater]

A base to attach a strobe etc. on the accessory shoe of an underwater housing

A compact arm base to create compact lighting system in combination with Z Joint or Single Light Holder LE to hold a strobe or LED flashlight.

■Hook plate
Easy installation with the hook plate which has "nails" to prevent accidental separation.

■Free strobe movement
The Shoe Base Set supports vertical and horizontal strobe movement for more flexible lighting.

■Wireless connection compatible
Wireless connection is supported without using fiber optics to benefit you external strobe shooting with handy system.

Grip Base M1

Grip Base M1

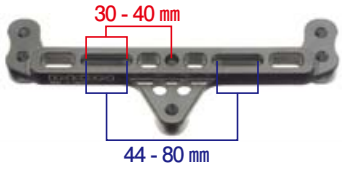
■Weight: 260g(9.2oz)[air] /
approx.150g(5.3oz)[underwater]
■Compatible Housing:
INON X-2 for GF1, X-2 for GF2
Olympus PT-EP01, PT-EP03,
PT-EP05L, PT-EP06L, PT-EP08

D Base M1

This product is equivalent to Grip Base M1 without D Holder and especially suitable for existing D Holder owners.
■Weight: 110g(3.9oz)[air] /
approx.73g(2.6oz)[underwater]

Arm base for midsize mirrorless camera housings

An arm base for a midsize underwater housing including micro four thirds system etc. Firmly attached on a housing with two tripod screws. The Base is equipped with legs to provide stable placement of combined housing. Wide variety of INON arm system is compatible with this product as same as the Grip Base D4. It is easy to set-up multiple lighting system with dual strobe configuration by attaching extra D Holder.



Working range of tripod screws

System Base Ⅱ

Holder Ⅱ Grip Set

■Weight: 410g(14.5oz)[air] /
approx.196g(6.9oz)[under surface]
■Compatible underwater camera/housing:
INON X-2 for EOS10D, X-2 for EOS20D, X-2 for EOS30D,
X-2 for EOS50D/40D, X-2 for EOS60D,
INON X1-Z, X1-NZ, X1-LZ,
INON X-2 for GF1, X-2 for GF2
Olympus PT-E03, PT-E05, PT-E06
Nikonos V(*1), Nikonos RS(*1)
(*1)The Holder Ⅱ Grip Set is attached with one tripod screw.

Holder Ⅱ Set

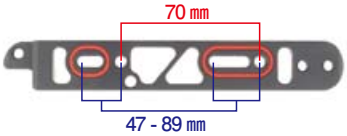
■Weight: 212g(7.5oz)[air] /
approx.66g(2.3oz)[under surface]

Grip+Bar Ⅲ Set

■Weight: 198g(7.0oz)[air] /
approx.130g(4.6oz)[under surface]

Arm base for SLR camera housings

A base stay with grip for a SLR housing to attach a strobe arm. Firmly attached on a housing by two tripod screws. The padded holder is made of 10mmm neoprene rubber to support back of right hand which holds INON X-2 series housing etc. directly and press the shutter release lever. The grip on the left is designed to access to focus/zoom dials of the X-2 series housing by left fingers with holding it. Both of them are adjustable to accommodate to a variety of hand sizes. Top edges of the holder and grip directly accept arm system products.



Working range of tripod screws

INON
ARM SYSTEM

ARM BODY

High precision machined aluminum alloy.
Rigid setting with lightweight strobe arm.

Stick Arm

Stick Arm XS

■Effective length: 75mm(3.0in) ■Full length: 96mm(3.8in)
■Weight: 41g(1.4oz)[air] / approx.25g(0.9oz)[underwater]
■Compatible options:M5 Joint + Shoe Base Spacer, M6 Joint + Direct Base Ⅲ

Stick Arm SS

■Effective length: 120mm(4.7in) ■Full length: 141mm(5.6in)
■Weight: 51g(1.8oz)[air] / approx.31g(1.1oz)[underwater]
■Compatible options:M5 Joint + Shoe Base Spacer, M5 Joint + Lens Holder for Float Arm, M6 Joint + Direct Base Ⅲ

Stick Arm S

■Effective length: 150mm(5.9in) ■Full length: 171mm(6.7in) ■Weight: 57g(2.0oz)[air] / approx.34g(1.2oz)[underwater]
■Compatible options:M5 Joint + Shoe Base Spacer, M5 Joint + Lens Holder for Float Arm,
M6 Joint + Direct Base Ⅲ, Stick Arm Float S (one)

Stick Arm M

■Effective length: 200mm(7.9in) ■Full length: 221mm(8.7in) ■Weight: 71g(2.5oz)[air] / approx.43g(1.5oz)[underwater]
■Compatible options:M5 Joint + Shoe Base Spacer, M5 Joint + Lens Holder for Float Arm,
M6 Joint + Direct Base Ⅲ, Stick Arm Float S (one)

Stick Arm L

■Effective length: 320mm(12.6in) ■Full length: 341mm(13.4in) ■Weight: 101g(3.6oz)[air] / approx.63g(2.2oz)[underwater]
■Compatible options:M5 Joint + Shoe Base Spacer, M5 Joint + Lens Holder for Float Arm,
M6 Joint + Direct Base Ⅲ, Stick Arm Float S (maximum two)

Aluminum alloy arm designed as stick shape to have less water resistant, ample durability and super lightweight body all together. Five different effective lengths are available to select to suit to a lens or subject. Stick Arms carry broad expandability and various functions with wide range of optional accessories attached on the middle of the arm.

A Lens Holder for Float Arm is attached via M5 Joint.

The Shoe Base is attached via M5 Joint and Shoe Base Spacer to hold a strobe or LED flashlight.

The Direct Base Ⅲ is attached via M6 Joint to hold single strobe or maximum two LED flashlights.

The Stick Arm Float S is attached to add approx. 84g/3.0oz buoyancy and support comfortable gripping.

Multi Ball Arm

❶
❷
❸
❹
❺
❻

New concept arm carrying extra ball-joint(s) besides both ends. Only with additional Clamp Ⅲ, another arm is attached on the middle of a Multi Ball Arm as like diverging a branch to create multiple strobe/LED flashlight system like a tree diagram. Six different effective lengths are available. Multi Ball Arm L and XL have total four ball-joints. As same as Stick Arms, Multi Ball Arms carry various functions with wide range of optional accessories.

Multi Ball Arm SS(❶)

■Effective length: 120mm(4.7in)
■Full length: 141mm(5.6in)
■Weight: 61g(2.2oz)[air] /
approx.37g(1.3oz)[underwater]

Multi Ball Arm S(❷)

■Effective length: 150mm(5.9in) ■Full length: 171mm(6.7in) ■Weight: 70g(2.5oz)[air] / approx.42g(1.5oz)[underwater] ■Compatible options: M5 Joint + Shoe Base Spacer, M6 Joint + Direct Base Ⅲ

Multi Ball Arm ML(❸)

■Effective length: 260mm(10.2in) ■Full length: 281mm(11.0in) ■Weight: 93g(3.3oz)[air] / approx.56g(2.0oz)[underwater]
■Compatible options: M5 Joint + Shoe Base Spacer, M5 Joint + Lens Holder for Float Arm, M6 Joint + Direct Base Ⅲ, Stick Arm Float S (one)

Multi Ball Arm L(❹)

■Effective length: 320mm(12.6in) ■Full length: 341mm(13.4in) ■Weight: 116g(4.1oz)[air] / approx.69g(2.4oz)[underwater]
■Compatible options: M5 Joint + Shoe Base Spacer, M5 Joint + Lens Holder for Float Arm, M6 Joint + Direct Base Ⅲ, Stick Arm Float S (one)

Multi Ball Arm LL(❺)

■Effective length: 380mm(15.0in) ■Full length: 401mm(15.8in) ■Weight: 123g(4.3oz)[air] / approx.75g(2.6oz)[underwater]
■Compatible options: M5 Joint + Shoe Base Spacer, M5 Joint + Lens Holder for Float Arm, M6 Joint + Direct Base Ⅲ, Stick Arm Float S (maximum two)

Multi Ball Arm XL(❻)

■Effective length: 440mm(17.3in) ■Full length: 461mm(18.1in) ■Weight: 145g(5.1oz)[air] / approx.87g(3.0oz)[underwater]
■Compatible options: M5 Joint + Shoe Base Spacer, M5 Joint + Lens Holder for Float Arm, M6 Joint + Direct Base Ⅲ, Stick Arm Float S (maximum two)

Arm

Arm SS

■Effective length: 120mm(4.7in) ■Full length: 144mm(5.7in)
■Weight: 60g(2.1oz)[air] / approx.40g(1.4oz)[underwater]

Arm S

■Effective length: 150mm (5.9in) ■Full length: 174mm(6.9in)
■Weight: 70g(2.5oz)[air] / approx.44g(1.6oz)[underwater]
■Compatible options:Lens Holder W, Lens Holder S, AD Lens Holder, Arm Float S (one)

Arm M

■Effective length: 200mm(7.9in) ■Full length: 224mm(8.8in)
■Weight: 85g(3.0oz)[air] / approx.52g(1.8oz)[underwater]
■Compatible options:Lens Holder W, Lens Holder S, AD Lens Holder, Arm Float S (one)

Arm L

■Effective length: 320mm(12.6in) ■Full length: 344mm(13.5in)
■Weight: 120g(4.2oz)[air] / approx.74g(2.6oz)[underwater]
■Compatible options:Lens Holder W, Lens Holder S, AD Lens Holder, Arm Float S (maximum two)

YS Arm MS

■Effective length: 166mm(6.5in) ■Full length: 187mm(7.4in)
■Weight: 70g(2.5oz)[air] / approx.43g(1.5oz)[underwater]
■Compatible options:Lens Holder W, Lens Holder S,
AD Lens Holder, Arm Float S (one)

YS Arm M

■Effective length: 203mm(8.0in) ■Full length: 224mm(8.8in)
■Weight: 80g(2.8oz)[air] / approx.49g(1.7oz)[underwater]
■Compatible options:Lens Holder W, Lens Holder S,
AD Lens Holder, Arm Float S (one)

Float Arm

Float Arm S

■Buoyancy: 75g(2.6oz)[underwater]
■Effective length: 150mm(5.9in) ■Full length: 174mm(6.9in)
■Outer diameter: 52mm(2.0in) ■Weight: 142g(5.0oz)[air]
■Compatible options: Lens Holder for Float Arm, Shoe Base Spacer

The Float Arm uses weather-resistant ABS material for its component arm body to lighten total weight creating extraordinary buoyancy comparing to existing solid arm type float system together with its hollow arm body design.

Maximum two Lens Holder for Float Arm can be attached.

Float Arm M

■Buoyancy: 135g (4.8oz)[underwater]
■Effective length: 200mm(7.9in) ■Full length: 224mm(8.8in)
■Outer diameter: 52mm(2.0in) ■Weight: 181g(6.4oz)[air]
■Compatible options: Lens Holder for Float Arm, Shoe Base Spacer

Mega Float Arm S

■Buoyancy: 390g(13.8oz)[underwater] ■Effective length: 150mm(5.9in)
■Full length: 174mm(6.9in) ■Outer diameter: 97mm(3.8in) ■Weight: 219g(7.7oz)[air]
■Compatible options: Lens Holder for Float Arm, Shoe Base Spacer

The Shoe Base is attached via "Shoe Base Spacer" to hold a strobe or LED flashlight.

Float Arm ML

■Buoyancy: 210g(7.4oz)[underwater]
■Effective length: 260mm(10.2in) ■Full length: 284mm(11.2in)
■Outer diameter: 52mm(2.0in) ■Weight: 235g(8.3oz)[air]
■Compatible options: Lens Holder for Float Arm, Shoe Base Spacer

Mega Float Arm M

■Buoyancy: 650g (22.9oz)[underwater]
■Effective length: 200mm(7.9in)
■Full length: 224mm(8.8in)
■Outer diameter: 97mm(3.8in)
■Weight: 295g(10.4oz)[air]
■Compatible options: Lens Holder for Float Arm, Shoe Base Spacer

CONNECTING PARTS

Connecting parts for base, arm and strobe/LED flashlight.

Clamp Ⅲ

The ClampⅢ links and locks ball-joints of an arm body, direct base or adapter each other. Ball-joint receptacles are machined lightweight aluminum alloy to satisfy highly precise and durable requirement. The handle is designed to naturally fit to fingers and made by resin casting to enhance its operability to clamp ball-joints firmly with less power and easy to loosen to adjust relative angle of combined arms.

■Effective length: 36mm(1.4in) ■Weight: 53g(1.9oz) [air] / approx.33g(1.2oz)[underwater]

Direct Base Ⅲ

The Direct Base Ⅲ is a fundamental part to attach arm system. Directly attached on the Grip Base D4/Grip Base M1/D Holder or via optional plate on a housing or other base products. It is also possible to attach the Direct Base Ⅲ on the middle of the Stick Arm or Multi Ball Arm via optional M6 Joint. Also usable as a strobe adapter. Its ball-joint is made of metal to provide rigid strobe positioning only by lightly fasten the Clamp Ⅲ.

■Effective length: 32mm(1.3in) ■Weight: 35g(1.2oz) [air] / approx.23g(0.8oz)[underwater]

Multi Direct Base Ⅱ WB

The Multi Direct Base Ⅱ WB has two ball-joints to have two branches of arm enabling more sophisticated lighting such as using one strobe for a subject and the other strobe for background or using a strobe for still imaging and video light for footage. Total 10 fixing holes (M6 x 6, M5 x 4) on its base provide broad compatibility with major brands' housings/grips and attached thoroughly by two cap bolts.

■Effective length: 86mm(3.4in) ■Weight: 56g(2.0oz) [air] / approx.33g(1.2oz)[underwater]

Multi Direct Base Ⅱ Long

An aluminum alloy base product to attach an arm on the Grip Base D4 or System BaseⅡ etc. Total 10 fixing holes (M6 x 6, M5 x 4) on its base provide broad compatibility with major brands' housings/grips, and attached thoroughly by two cap bolts.

■Effective length: 76mm(3.0in) ■Weight: 46g(1.6oz) [air] / approx.28g(1.0oz)[underwater]

Z Adapter MV

An adapter to attach Z-240/D-2000/S-2000 strobe or Double Light Holder LE on an arm body or Direct Base Ⅲ etc. via clamp. The ball-joint is made from plastic to provide flexible strobe positioning without loosening a clamp to provide comfortable strobe aiming.

■Effective length: 58mm(2.3in) ■Weight: 35g(1.2oz) [air] / approx.16g(0.6oz)[underwater]

Z Joint

A joint adapter to attach Z-240/D-2000/S-2000 strobe on YS type arm head including Grip Base D4/ Grip Base M1/D Holder/Shoe Base/YS Adapter MV/ YS Arm etc.

■Effective length: 26mm(1.0in) ■Weight: 46g(1.6oz) [air] / approx.23g(0.8oz)[underwater]

M6 Plate Direct Base Ⅲ

The M6 Plate Direct BaseⅢ is an optional product to attach the Direct BaseⅢ on an INON X-2 series housing or System Base Ⅱ. Two M6 screw holes with 8mm or more depth and 13mm - 28mm center-to-center distance of screw holes, are required to attach on other brands' base product or housing.

■Weight: 19g(0.7oz)[air] / approx.15g(0.5oz) [underwater]

M5 Plate Direct Base Ⅲ

The M5 Plate Direct Base Ⅲ is an optional product to attach the Direct Base Ⅲ on other manufactures' base or housing which has M5 screw. Two M5 screw holes with 6mm or more depth and 24mm - 28mm center-to-center distance of screw holes, are required.

■Weight: 19g(0.7oz)[air] / approx.13g(0.5oz) [underwater]

Z Adapter Ⅱ

An aluminum adapter to attach Z-240/D-2000/ S-2000 strobe or Double Light Holder LE. Also usable to add ball-joint vertically or horizontally on top edge of the Grip Base D4.

■Effective length: 59mm(2.3in) ■Weight: 58g(2.0oz) [air] / approx.36g(1.3oz)[underwater]

YS Adapter MV

An adapter to attach YS joint equipped product such as INON Z-22 strobe, SEA&SEA YS series strobe, Single Light Holder LE or Z Joint, on an arm or Direct Base Ⅲ via clamp. The ball-joint is made from plastic to provide flexible strobe positioning without loosening a clamp to provide comfortable strobe aiming.

■Effective length: 46mm(1.8in) ■Weight: 20g(0.7oz)[air] / approx.7g(0.2oz)[underwater]

YS Adapter

An aluminum alloy adapter to attach YS joint equipped product such as INON Z-22 strobe, SEA&SEA YS series strobe, Single Light Holder LE or Z Joint. The SEA&SEA YS-300 and YS-350 have wider strobe adapter mount and YS Adapter is still usable for them by installing packaged O-ring on a groove of the adapter to accommodate with the strobe adapter mount.

■Effective length: 46mm(1.8in) ■Weight: 36g(1.3oz)[air] / approx.22g(0.8oz)[underwater]

YS Adapter Fixing Bolt

A dedicated screw to attach Z-240/D-2000/S-2000 strobe etc. on YS type arm head like YS Adapter MV or YS Arm directly.

■Weight: 12g(0.4oz)[air] / approx.8g(0.3oz)[underwater]

Double YS Adapter MV

An adapter equipped with two YS type arm heads on a ball-joint to hold two strobe/LED flashlight via Z Joint or light holder. The ball-joint is made from plastic to provide flexible strobe/LED flashlight positioning without loosening a clamp.

■Effective length: 91mm(3.6in) ■Weight: 30g(1.1oz)[air] / approx.11g(0.4oz)[underwater]

YS Adapter WB MV

A YS type adapter carrying double ball-joints. Strobes or LED flashlights are attached on the YS type arm head via Z Joint or light holder and on the ball-joint via clamp. The ball-joint is made from plastic to provide flexible strobe/LED flashlight positioning without loosening a clamp.

■Effective length: 101mm(4.0in) ■Weight: 37g(1.3oz)[air] / approx.13g(0.5oz)[underwater]

Strobe Light Holder LE

An optional product to attach one or two LE series LED flashlight on compatible lighting arm together with an INON strobe. Directly attached on a YS type arm head like Grip Base D4 in combination with the Z Joint. Pairing with the Z Adapter MV or Z Adapter Ⅱ enables to attach on a ball-joint product with a clamp. Usable as a holder for LE series LED flashlight as well.

■Weight: 67g(2.4oz)[air] / approx.35g(1.2oz)[underwater]

Single Light Holder LE

An optional product to attach single LE series LED flashlight on a YS type arm head. Especially for handy and compact camera system set-up with Shoe Base or Grip Base D4.

■Weight: 56g(2.0oz)[air] / approx.31g(1.1oz)[underwater]

Double Light Holder LE

An optional product to attach two LE series LED flashlights on a YS type arm head of the Shoe Base or Grip Base D4. Pairing with the Z Adapter MV or Z Adapter Ⅱ enables to attach on a ball-joint product with a clamp.

■Weight: 73g(2.6oz)[air] / approx.29g(1.0oz)[underwater]

Quad Light Holder LE

An optional product to attach two or four LE series LED flashlights on a YS type arm head of the Shoe Base or Grip Base D4. Pairing with the Z Adapter MV or Z Adapter Ⅱ enables to attach on a ball-joint product with a clamp.

■Weight: 115g(4.1oz)[air] / approx.48g(1.7oz)[underwater]

ARM OPTION

Dedicated options to add functions

M6 Joint

The M6 Joint is an optional product to attach the Direct BaseⅢ on a Stick Arm or Multi Ball Arm to hold a strobe or LED flashlight on the middle of arm.

■Weight: 24g(0.8oz)[air] / approx.15g(0.5oz)[underwater]

■Compatible arm: Stick Arm XS/SS/S/M/L, Multi Ball Arm S/ML/L/LL/XL

＊The Direct BaseⅢ combined with an arm via this product, can hold single strobe or two LED flashlights with the ClampⅢ but not able to hold any heavier combination like a strobe and an LED flashlight together, three or more LED flashlights or attaching single strobe or two LED flashlights via arm with two or more Clamp Ⅲ.

M5 Joint

The M5 Joint is an optional product to attach a Lens Holder for Float Arm or the Shoe Base (via Shoe Base Spacer) on a Stick Arm Body or Multi Ball Arm Body.

■Weight: 14g(0.5oz)[air] / approx.8g(0.3oz)[underwater]

■Compatible arm:

●When installing Lens Holder for Float Arm
Stick Arm SS/S/M/L
Multi Ball Arm ML/L/LL/XL

●When installing Shoe Base Spacer
Stick Arm XS/SS/S/M/L
Multi Ball Arm S/ML/L/LL/XL

Shoe Base Spacer

An optional product to attach the Shoe Base on a Float Arm or Mega Float Arm. Also usable to attach the Shoe Base on the M5 Joint installed on a Stick Arm Body or Multi Ball Am Body to hold a strobe or LED flashlight on the middle of arm.

■Weight: 20g(0.7oz)[air] / approx.12g(0.4oz)[underwater]

■Compatible arm:
Float Arm S/M/ML
Mega Float Arm S/M
M5 Joint + Stick Arm XS/SS/S/M/L
M5 Joint + Multi Ball Arm S/ML/L/LL/XL

D Holder Extension Bar

The D Holder Extension Bar is attached on the Grip Base D4/Grip Base M1/D Holder to hold a lens holder.

■Weight:53g(1.9oz)[air] / approx.34g(1.2oz)[underwater]

■Compatible base: Grip Base D4, Grip Base M1, D Holder

■Compatible lens holder: LD/M67 Lens Holder S, AD Lens Holder (Lens Holder [screw] only), LD/M67 Lens Holder W (Lens Holder [screw] only)

Stick Arm Float S

An optional attachment for a Stick Arm or Multi Ball Arm to provide comfortable gripping and add approx.84g buoyancy underwater to lighten total underwater weight of combined camera system.

■Buoyancy: approx.84g(3.0oz)[underwater]

■Weight: 82g(2.9oz)[air]

■Compatible arm:Stick Arm S/M/L (Sick Arm L can have two Stick Arm Float S)
Multi Ball Arm ML/L/LL/XL (Multi Ball Arm LL/XL can have two Stick Arm Float S)

Arm Float S

The Arm Float S is attached on an aluminum alloy arm to help to grasp it comfortably and add approx. 70g buoyancy underwater.

■Buoyancy: approx.70g(2.5oz)[underwater]

■Weight: 45g(1.6oz)[air]

■Compatible arm:
Arm S/M/L (Arm L can have two Arm Float S)
YS Arm MS/M

Shoe Base Adapter D4

An adapter to attach the Shoe Base directly on the Grip Base D4/Grip Base M1/D Holder/D Holder Extension Bar to hold a strobe via Z Joint or LED flashlight via light holder in compact configuration for free positioning of the lighting device.

■Weight: 10g(0.4oz)[air] / approx.6g(0.2oz)[underwater]

■Compatible arm/base: Grip Base D4, Grip Base M1, D Holder, D Holder Extension Bar, Port Arm for MRS, Port Arm for UFL-MR130 EFS60

Shoe Base Adapter X-2

An adapter to attach the Shoe Base on an X-2 series housing or System BaseⅡ to hold Z-240/D-2000/S-2000 strobe via Z Joint or LE series LED flashlight via light holder for free positioning of the lighting device.

■Weight: 10g(0.4oz)[air] / approx.6g(0.2oz)[underwater]

Washer Set (Direct Base Ⅲ both sides mounting)

Dedicated washers to attach two of Direct BaseⅢ directly on both sides of compatible base.

Cap Screw Set (Multi Direct Base Ⅱ both sides mounting)

Dedicated screw set to attach any two of Multi Direct Base Ⅱ Long and Multi Direct Base Ⅱ WB directly on both sides of compatible base.

AD Lens Holder for Float Arm

A lens holder attached on a Float Arm/Mega Float Arm or on the M5 Joint installed on a Stick Arm/ Multi Ball Arm to carry AD series/28AD series attachment lens to help comfortable multiple lens handling underwater.

■Weight: 26g(0.9oz)[air] / approx.6g(0.2oz)[underwater]

LD Lens Holder for Float Arm

A lens holder attached on a Float Arm/Mega Float Arm or on the M5 Joint installed on a Stick Arm/Multi Ball Arm to carry 28LD series attachment lens to help comfortable multiple lens handling underwater.

■Weight: 32g(1.1oz)[air] / approx.7g(0.2oz)[underwater]

*In combination with AD-LD Mount Converter for UCL-165AD/M67-LD Mount Converter for UCL-330/165M67, other series attachment lens can be attached.

M67 Lens Holder for Float Arm

A lens holder attached on a Float Arm/Mega Float Arm or on the M5 Joint installed on a Stick Arm/ Multi Ball Arm to carry M67 series/28M67 series attachment lens.

■Weight: 50g(1.8oz)[air] / approx.25g(0.9oz)[underwater]

AD Lens Holder for Float Arm
LD Lens Holder for Float Arm
M67Lens Holder for Float Arm compatible arm

- Float Arm S/M/ML
- Mega Float Arm S/M
- M5 Joint + Stick Arm SS/S/M/L
- M5 Joint + Multi Ball Arm ML/L/LL/XL

LD Lens Holder S

A lens holder attached on an Arm or D Holder Extension Bar etc. to carry 28LD series attachment lens. Compatible product is sandwiched between Lens Holder [screw] and Lens Holder Base of this product.

■Weight: 44g(1.6oz)[air] / approx.14g(0.5oz)[underwater]

*In combination with AD-LD Mount Converter for UCL-165AD/M67-LD Mount Converter for UCL-330/165M67, other series attachment lens can be attached.

M67 Lens Holder S

A lens holder attached on an Arm or D Holder Extension Bar etc. to carry M67 series/28M67 series attachment lens. Compatible product is sandwiched between Lens Holder [screw] and Lens Holder Base of this product.

■Weight: 62g(2.2oz)[air] / approx.31g(1.1oz)[underwater]

LD Lens Holder S
M67 Lens Holder S compatible arm/base

- Arm SS/S/M/L
- YS Arm MS/M
- Grip Base D4 (optional D Holder Extension Bar is necessary.)
- Grip Base M1 (optional D Holder Extension Bar is necessary.)
- D Holder (optional D Holder Extension Bar is necessary.)
- Grip Base DⅢ w/ Rubber Grip D
- Grip Base DⅡ w/ Rubber Grip D

AD Lens Holder

A lens holder attached on an Arm to carry maximum two AD series/28AD series attachment lens. Compatible product is sandwiched between Lens Holder [screw] and Lens Holder [hole]. The Lens Holder [screw] is usable as a lens holder on the D Holder Extension Bar and the Lens Holder [hole] is usable as a lens holder for Float Arm as well.

■Weight:

●When attached on both sides 57g(2.0oz)[air] / approx.18g(0.6oz)[underwater]

●When attached on single side 38g(1.3oz)[air] / approx.12g(0.4oz)[underwater]

LD Lens Holder W

A lens holder attached on an Arm to carry maximum two 28LD series attachment lens. Compatible product is sandwiched between the Lens Holder [screw] and Lens Holder [hole]. The Lens Holder [screw] is usable as LD Lens Holder S and the Lens Holder [hole] is usable as like LD Lens Holder for Float Arm as well.

■Weight:

●When attached on both sides 69g(2.4oz)[air] / approx.20g(0.7oz)[underwater]

*In combination with AD-LD Mount Converter for UCL-165AD/M67-LD Mount Converter for UCL-330/165M67, other series attachment lens can be attached.

M67 Lens Holder W

A lens holder attached on an Arm to carry maximum two M67/28M67 series attachment lens. Compatible product is sandwiched between Lens Holder [screw] and Lens Holder [hole]. The Lens Holder [screw] is usable as M67 Lens Holder S and the Lens Holder [hole] is usable as like M67 Lens Holder for Float Arm as well.

■Weight:

●When attached on both sides 106g(3.7oz)[air] / approx.60g(2.1oz)[underwater]

AD Lens Holder
LD Lens Holder W
M67 Lens Holder W compatible arm/base

●When using the Lens Holder [screw] and Lens Holder [hole]
- Arm SS/S/M/L
- YS Arm MS/M

●When using the Lens Holder [screw] only
- Arm SS/S/M/L
- YS Arm MS/M
- Grip Base D4 (optional D Holder Extension Bar is necessary.)
- Grip Base M1 (optional D Holder Extension Bar is necessary.)
- D Holder (optional D Holder Extension Bar is necessary.)
- Grip Base DⅢ w/ Rubber Grip D
- Grip Base DⅡ w/ Rubber Grip D

●When using the Lens Holder [hole] only
- Float Arm S/M/ML
- Mega Float Arm S/M
- M5 Joint + Stick Arm SS/S/M/L
- M5 Joint + Multi Ball Arm ML/L/LL/XL

INON
ARM SYSTEM

STICKARM SET

Various Stick Arm Sets with
different lengths and adapters.

Arm Set Z-MV

Direct Arm Z-MV Set

■Effective length: 126mm(5.0in) ■Weight: 123g(4.3oz)[air] / approx.72g(2.5oz)[underwater]
■Set contents: Z Adapter MV, Direct Base Ⅲ, Clamp Ⅲ

Stick Arm XS Set Z-MV

■Effective length: 201mm(7.9in) ■Weight: 217g(7.7oz)[air] / approx.130g(4.6oz)[underwater]
■Set contents: Z Adapter MV, Stick Arm XS, Direct Base Ⅲ, Clamp Ⅲ x2

Stick Arm SS Set Z-MV

■Effective length: 246mm(9.7in) ■Weight: 227g(8.0oz)[air] / approx.136g(4.8oz)[underwater]
■Set contents: Z Adapter MV, Stick Arm SS, Direct Base Ⅲ, Clamp Ⅲ x2

Arm Set YS-MV

Direct Arm YS-MV Set

■Effective length: 114mm(4.5in) ■Weight: 108g(3.8oz)[air] / approx.63g(2.2oz)[underwater]
■Set contents: YS Adapter MV, Direct Base Ⅲ, Clamp Ⅲ

Stick Arm XS Set YS-MV

■Effective length: 189mm(7.4in) ■Weight: 202g(7.1oz)[air] / approx.121g(4.3oz)[underwater]
■Set contents: YS Adapter MV, Stick Arm XS, Direct Base Ⅲ, Clamp Ⅲ x2

Stick Arm SS Set YS-MV

■Effective length: 234mm(9.2in) ■Weight: 212g(7.5oz)[air] / approx.127g(4.5oz)[underwater]
■Set contents: YS Adapter MV, Stick Arm SS, Direct Base Ⅲ, Clamp Ⅲ x2

Arm Set D

Direct Arm D Set

■Effective length: 100mm(3.9in) ■Weight: 123g(4.3oz)[air] / approx.79g(2.8oz)[underwater]
■Set contents: Direct Base Ⅲ x2, Clamp Ⅲ

Stick Arm XS Set D

■Effective length: 175mm(6.9in) ■Weight: 217g(7.7oz)[air] / approx.137g(4.8oz)[underwater]
■Set contents: Stick Arm XS, Direct Base Ⅲ x2, Clamp Ⅲ x2

Stick Arm SS Set D

■Effective length: 220mm(8.7in) ■Weight: 227g(8.0oz)[air] / approx.143g(5.0oz)[underwater]
■Set contents: Stick Arm SS, Direct Base Ⅲ x2, Clamp Ⅲ x2

Stick Arm S Set Z-MV

■Effective length: 276mm(10.9in) ■Weight: 233g(8.2oz)[air] / approx.139g(4.9oz)[underwater]
■Set contents: Z Adapter MV, Stick Arm S, Direct Base Ⅲ, Clamp Ⅲ x2

Stick Arm M Set Z-MV

■Effective length: 326mm(12.8in) ■Weight: 247g(8.7oz)[air] / approx.148g(5.2oz)[underwater]
■Set contents: Z Adapter MV, Stick Arm M, Direct Base Ⅲ, Clamp Ⅲ x2

Stick Arm L Set Z-MV

■Effective length: 446mm(17.6in) ■Weight: 277g(9.8oz)[air] / approx.168g(5.9oz)[underwater]
■Set contents: Z Adapter MV, Stick Arm L, Direct Base Ⅲ, Clamp Ⅲ x2

Stick Arm S Set YS-MV

■Effective length: 264mm(10.4oz) ■Weight: 218g(7.7oz)[air] / approx.130g(4.6oz)[underwater]
■Set contents: YS Adapter MV, Stick Arm S, Direct Base Ⅲ, Clamp Ⅲ x2

Stick Arm M Set YS-MV

■Effective length: 314mm(12.4in) ■Weight: 232g(8.2oz)[air] / approx.139g(4.9oz)[underwater]
■Set contents: YS Adapter MV, Stick Arm M, Direct Base Ⅲ, Clamp Ⅲ x2

Stick Arm L Set YS-MV

■Effective length: 434mm(17in) ■Weight: 262g(9.2oz)[air] / approx.159g(5.6oz)[underwater]
■Set contents: YS Adapter MV, Stick Arm L, Direct Base Ⅲ, Clamp Ⅲ x2

Stick Arm S Set D

■Effective length: 250mm(9.8in) ■Weight: 233g(8.2oz)[air] / approx.146g(5.2oz)[underwater]
■Set contents: Stick Arm S, Direct Base Ⅲ x2, Clamp Ⅲ x2

Stick Arm M Set D

■Effective length: 300mm(11.8in) ■Weight: 247g(8.7oz)[air] / approx.155g(5.5oz)[underwater]
■Set contents: Stick Arm M, Direct Base Ⅲ x2, Clamp Ⅲ x2

Stick Arm L Set D

■Effective length: 420mm(16.5in) ■Weight: 277g(9.8oz)[air] / approx.175g(6.2oz)[underwater]
■Set contents: Stick Arm L, Direct Base Ⅲ x2, Clamp Ⅲ x2

INON

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